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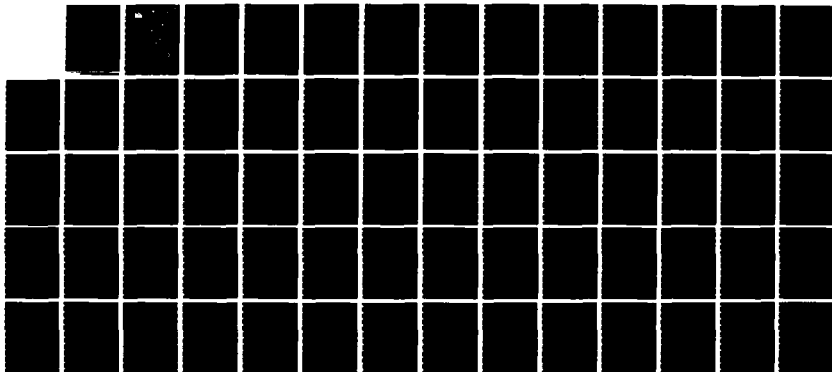
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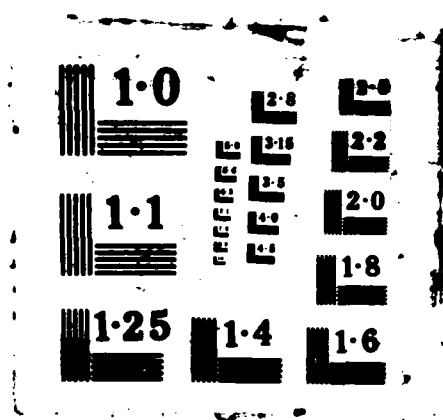
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# OCCUPATIONAL SURVEY REPORT

PEST MANAGEMENT CAREER LADDER

AFSC 566X0 AND  
OCCUPATIONAL SERIES 5026

AFPT 90-566-746

DECEMBER 1986

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## PREFACE

This report presents the results of an Air Force occupational survey of the Pest Management career ladder (AFSC 566X0) and related civilian occupational series 5026. The survey was requested by the 3700 Technical Training Wing Training Manager at Sheppard AFB, Texas, and Headquarters Air Force Engineering and Services Center at Tyndall AFB, Florida. Authority for conducting occupational surveys is contained in AFR 35-2. Computer products from which this report was produced are available for use by operations and training officials.

The development of the survey instrument as well as analysis of the data and writing the final report were accomplished by Ms Viola L. Allen. Staff Sergeant Joseph E. Seitz, Computer Programmer, provided computer support for this project. Administrative support was provided by Mr Richard G. Ramos. This report has been reviewed and approved by Lieutenant Colonel Charles D. Gorman, Chief, Airman Analysis Branch, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel (see DISTRIBUTION on Page i). Additional copies are available upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Division (OMY), Randolph AFB, Texas 78150-5000.

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## SUMMARY OF RESULTS

1. Survey Coverage. Seventy-six percent (N=359) of the AFSC 566X0 assigned military population, and 57 percent (N=93) of the eligible civilian force (Occupational Series 5026) completed job inventory booklets. Personnel were surveyed worldwide across all major using commands. The military sample, including 3-, 5-, and 7-skill level members, was representative in terms of MAJCOM and paygrade distribution.

2. Specialty Jobs (Career Ladder Structure). Survey data show military and civilian Pest Management personnel performing basically the same technically-oriented job. Two core jobs were identified, Senior Pest Management Personnel and Junior Pest Management Personnel, which differentiated primarily on three factors: (1) number of tasks performed, (2) time spent on specific groups of tasks, and (3) experience level.

3. Comparison To Previous Survey. Career ladder structure findings of this report were compared to the previous occupational survey of this AFSC conducted in 1981. Some minor changes have occurred which broaden the areas of responsibility for personnel performing the job identified as Junior Pest Management Personnel (then, Junior Entomologists). In addition, MAJCOM certification emphasis has shifted, in keeping with current directives, to increase the scope of responsibility for Pest Management personnel. Otherwise, the career ladder has remained remarkably stable.

4. Career Ladder Progression. The major focus of jobs performed across all skill level groups centers around technical pest management functions. On the whole, as career ladder experience increases, members perform virtually all technical tasks performed by their subordinates, in addition to assuming supervisory, administrative, and training tasks. Generally, all members spend very little to no job time performing tasks related to mollusk/fungi/mold control, military quarantine, or fumigation operations.

5. AFR 39-1 Specialty Descriptions. The Specialty Descriptions across skill level groups provide accurate and comprehensive coverage of jobs operating within this career ladder.

6. Civilian/Military Comparisons. Data indicate civilians spend slightly more time performing termite control functions, while military members (primarily 7-skill levels) perform more contingency-related activities. Essentially, both military and civilian members perform all tasks included in the job inventory.

7. Training Analysis. The Specialty Training Standard (STS) for this AFSC is generally supported by survey data; however, the document requires review for possible adjustments for consistency, the extent of coverage of some elements, and to proficiency codes relevant to ABR training. One area in particular, pertaining to the performance of fumigation operations referenced to the POI as well as the STS, indicates very low percentages of career ladder members performing across the various enlistment or skill level groups. Many

other areas of the POI are not supported by survey data due to low percent members performing tasks related to performance objectives. Tasks not referenced to any POI objectives are extensive, with the majority centering around equipment maintenance, administrative, and coordinating functions. These areas and others, as outlined in the TRAINING ANALYSIS section of this report, require thorough review for possible additions or deletions to the basic course.

8. Implications. MAJCOM certification emphasis has shifted from the area of Agricultural Pest Control, Animal, and has expanded to include two areas that received lower emphasis in the last survey - Aquatic and Right-of-Way Pest Control. First-enlistment personnel are performing a wider range of technical tasks than their 1981 counterparts. While survey data support the current career ladder classification structure, AFSC training documents were found to have low percent members performing on many of the matched tasks, and high percent members performing on some tasks not referenced to any sections of the STS or POI. Specifically, training which supports the following areas requires review: fumigation operations, medical pest management, control of stored products pests, control of structural pests, bird pests control, fungicide operations, and the selection of appropriate integrated pest management procedures for plant diseases. Hence, some adjustments to the basic ABR course may be warranted to more effectively support the needs of the career ladder.



OCCUPATIONAL SURVEY REPORT  
PEST MANAGEMENT CAREER LADDER  
AND RELATED CIVILIAN OCCUPATIONAL SERIES  
(AFSC 566X0 and OCSRS 5026)

INTRODUCTION

This is a report of an occupational survey of the Pest Management specialty and related civilian occupational series completed by the USAF Occupational Measurement Center in December 1986. The previous occupational survey report of this career ladder was published in May 1981.

Objectives of Study

The present survey was requested by both the 3700 Technical Training Wing at Sheppard AFB TX and the Air Force Engineering and Services Center (AFESC) at Tyndall AFB FL. Primarily, the request was prompted to assess the impact of revisions to Pest Management regulating publications and directives; such as, AFR 91-21, DOD Directive 4150.7 (dated 7 September 1984), and the Environmental Protection Agency. In addition, current information was requested to review training documents for the recently expanded initial skills course.

AFESC requested that civilians be surveyed to ensure complete coverage, since civilian personnel may be performing tasks or jobs not performed by their military counterparts. Civilian personnel completing the survey did so on a voluntary basis; thus, civilian representation is not as compatible as their military counterparts.

In addition to the regulatory effects and training issues, many other areas will be discussed in this report. Some of these include: (1) identification of specialty jobs; (2) differences between groups, such as Total Active Federal Military Service (TAFMS) and Duty Air Force Specialty Code (DAFSC); (3) comparison of job satisfaction data between enlistment groups; and (4) comparison of current survey findings with previous survey data.

Other pertinent analysis issues to be addressed in this occupational survey report include: (1) AF Pest Management certification; (2) update on the Bird Air-Strike Hazard (BASH) program; (3) geographical influence on task performance; and (4) military versus civilian jobs.

History

The Pest Management specialty had its beginning in September 1962, under the title Engineering Entomology Specialty (AFSC 551X3). Then, the career ladder was comprised of a 3- and 5-skill level, which merged with other ladders to form a common 7-skill level under the Roads and Grounds specialty

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(AFSC 551X0). The present AFSC numerical designation (566X0) was assigned in September 1964, when the newly titled Engineering Entomology specialty became a straight 3-5-7 career ladder. A minor title change, in which the term "Engineering" was deleted, followed in April 1973. The career ladder did not undergo any major revisions for a period of 9 years when, in April 1982, the title was changed to the present designation. To date, this ladder merges at the 9-skill level with the Environmental Support specialty (AFSC 566X1), forming the Sanitation career field. For purposes of this study, analysis results are based upon data gathered from 3-, 5-, and 7-skill level 566X0 members and their civilian counterparts only.

### Background

As described in AFR 39-1 Specialty Descriptions for this AFSC, Pest Management personnel perform tasks required in the prevention, control, and eradication of plant and animal pests. Members not only provide pest management on base facilities or areas in an affiliate relationship with the base, but the range of responsibility carries over during wartime efforts also. Many active duty members in this AFSC have a contingency obligation, primarily in the designated functions known as PRIME BEEF (Base Engineer Emergency Force) and RED HORSE (Rapid Engineering Deployable Heavy Operational Repair Squadron Equipment). Hence, the duties and responsibilities associated with these contingency efforts may account for a considerable portion of job time, thereby limiting members in the performance of "pure" specialty-related tasks.

An Armed Forces Vocational Aptitude Battery (ASVAB) score of 39 on the General portion of the examination is required for entry into the AFSC 566X0 career field. The formal basic skills course is provided by the 3770th Technical Training Group, Sheppard AFB, Texas. The Pest Management specialty is a category A career ladder - all personnel entering the AFSC must complete the basic skills course lasting 6 weeks and 2 days. Once initial training is completed and AFSC 566X0 personnel are assigned to operational units, they receive more job-related training through the on-the-job training (OJT) program and four advanced courses, as needed. Certification is recommended upon the award of the 5-skill level in addition to 1 year OJT. Three of the advanced courses are taught at Sheppard Technical Training Center and are available to all using major commands. One of the advanced courses is provided by a Mobile Training Team (MTT), offering training in multiple locations. These advanced courses include:

|                |                                   |
|----------------|-----------------------------------|
| J3AZR56650-001 | VEGETATION AND TURF MANAGEMENT    |
| J4AST56650-006 | PLANT PEST MANAGEMENT (Travel)    |
| J3AZR56650-002 | PEST MANAGEMENT (Recertification) |
| J3AAR56670-000 | PEST MANAGEMENT TECHNICIAN        |

The advanced courses provide more detailed training in specified Pest Management areas for recertification purposes and advancement.

## SURVEY METHODOLOGY

### Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-566-746, dated June 1985. A tentative task list was prepared by the Inventory Developer after carefully reviewing the previous task list, current career ladder publications and directives and training documents to determine the appropriateness of each task. This tentative task list was refined and validated in the field through personal interviews with 52 subject-matter experts (27 military and 25 civilian) at Sheppard Technical Training Center and 8 different bases. Other significant contacts with personnel having career ladder involvement included Air Force Military Personnel Center (AFMPC) resource manager, assignments, and classification specialists; Air Force and major command functional managers; career ladder Training Manager; and the HQ ATC Training Staff Officer.

To ensure full coverage of the variety of tasks performed by career ladder members, critical bases were identified according to geographical location and mission responsibility, and visited primarily on the recommendations of major command functional managers. Pest Management shops at the following bases were visited:

Mather AFB CA (ATC) - extensive herbiciding operation; permanent positions assigned for herbiciding only. Active BASH program due to UNT (flying base) - especially with smaller planes and engines more susceptible to pest bird damage.

Vandenberg AFB CA (SAC) - broad array of integrated pest management problems; especially, agricultural and vertebrate pest control. Contracted fumigation is extensive.

Kelly AFB TX (AFLC) - hosts San Antonio Real Property Management Agency (SARPMA) which is the largest contracted Civil Engineering (CE) operation for any branch of the Armed Forces.

MacDill AFB FL (TAC) - diverse pest management operation; largest in TAC.

Eglin AFB FL (AFSC) - responsibility for on and off-base pest management.

Barksdale AFB LA (SAC) - extensive subterranean termite control; high usage of ultra low volume (ULV) generator due to extent of mosquito control.

Little Rock AFB AR (MAC) - high emphasis on control of stored product pests.

McGuire AFB NJ (MAC) - fumigation performed by Air Force personnel;  
on-site USDA Animal Plant Health Inspection Service (APHIS) management for military quarantine for inbound and outbound cargo.

This process resulted in a final job inventory, organized by specific categories of pest management functions, containing 519 tasks grouped under 16 duty headings. Other areas in the job inventory consisted of: (1) a biographical information section, which included items such as name, SSAN, number of months on current job, and total military service time; (2) a background information section which included questions about such items as job satisfaction, equipment and pesticides used, certification, contracted work, training courses completed; and (3) a background information section for military personnel only to gather data concerning contingency task performance, retirement plans, and reenlistment intentions.

### Survey Administration

From August 1985 to February 1986, job inventories were administered by local Consolidated Base Personnel Offices (CBPO) worldwide to AFSC 566X0 personnel at the 3-, 5-, and 7-skill levels. Similarly, survey booklets for civilians holding Occupational Series 5026 were distributed via local Civilian Personnel Offices (CPO). Military participants were selected from a computer-generated mailing list provided by the Air Force Human Resources Laboratory (AFHRL), while civilian personnel were selected from a list supplied by the Air Force Civilian Personnel Management Center (AFCPMC).

Each individual who filled out an inventory booklet first completed personal biographical and background sections and then checked each task performed in their current job. Next, members rated the tasks on a 9-point scale showing relative time spent on each task as compared to all other tasks. Ratings ranged from 1 (very small amount of time spent) to 9 (very large amount of time spent). Statistical analysis of these ratings provides a basis for comparing tasks in terms of both percent members performing (indicated by tasks checked by all incumbents) and relative percent time spent (based on calculations from the 9-point scale).

### Survey Sample

Military personnel included in the survey were carefully selected to ensure an accurate representation across using major commands (MAJCOM) and paygrade groups. As stated previously, civilian participation was strictly on a voluntary basis; therefore, civilian representation may not be as high as for their military counterparts. Table 1 displays the MAJCOM percent assigned distribution of military career ladder members (as of November 1985) corresponding with the MAJCOM distribution of our survey sample. The table clearly shows each MAJCOM was proportionately represented. Table 1B shows comparable information for the final sample of civilian personnel. Tables 2 and 2B compare military paygrade and civilian paygrade distribution, respectively. Note

TABLE 1  
COMMAND REPRESENTATION OF MILITARY SURVEY SAMPLE  
(AFSC 566X0)

| <u>COMMAND</u> | <u>PERCENT OF ASSIGNED</u> | <u>PERCENT OF SAMPLE</u> |
|----------------|----------------------------|--------------------------|
| SAC            | 25                         | 24                       |
| TAC            | 18                         | 18                       |
| MAC            | 16                         | 18                       |
| AFLC           | 9                          | 10                       |
| ATC            | 8                          | 10                       |
| PACAF          | 8                          | 8                        |
| USAFE          | 7                          | 6                        |
| AFSC           | 4                          | 4                        |
| AAC            | 3                          | 2                        |
| OTHER*         | 2                          | 0                        |

Total Assigned\*\* - 471  
Total Eligible for Survey\*\*\* - 403  
Total Assigned in Sample - 359  
Percent of Assigned in Sample - 76  
Percent of Eligible in Sample - 89

- \* Includes USAFA, SPC, and AU
- \*\* Assigned strength as of November 1985
- \*\*\* Excludes those in PCS status, students, hospitalized personnel, and personnel with less than 6 weeks on the job

TABLE 1B  
COMMAND REPRESENTATION OF CIVILIAN SURVEY SAMPLE  
(OCCUPATIONAL SERIES 5026)

| <u>COMMAND</u> | <u>PERCENT OF ELIGIBLE*</u> | <u>PERCENT OF SAMPLE</u> |
|----------------|-----------------------------|--------------------------|
| ATC            | 27                          | 22                       |
| MAC            | 19                          | 17                       |
| TAC            | 15                          | 15                       |
| SAC            | 14                          | 18                       |
| AFLC           | 12                          | 13                       |
| PACAF          | 7                           | 9                        |
| OTHER*         | 6                           | 6                        |

Total Eligible for Survey\* - 162

Percent of Eligible in Sample\*\* - 57

\* Includes USAFA, AFR, and AU

\*\* Includes those having Functional Account Code (FACC) of 4493 and Occupational Series (OCSRS 5026)

TABLE 2  
 PAYGRADE DISTRIBUTION OF MILITARY SURVEY SAMPLE  
 (N=359)

| <u>PAYGRADE</u>       | <u>PERCENT OF ASSIGNED</u> | <u>PERCENT OF SAMPLE</u> |
|-----------------------|----------------------------|--------------------------|
| AB - A1C (E-1 TO E-3) | 45                         | 47                       |
| SRA/SGT (E-4)         | 21                         | 20                       |
| SSGT (E-5)            | 18                         | 19                       |
| TSGT (E-6)            | 10                         | 9                        |
| MSGT (E-7)            | 6                          | 5                        |

TABLE 2B  
PAY PLAN/GRADE DISTRIBUTION OF CIVILIAN SURVEY SAMPLE  
(N=93)

| <u>PAY PLAN/GRADE</u> | <u>PERCENT OF ELIGIBLE</u> | <u>PERCENT OF SAMPLE</u> |
|-----------------------|----------------------------|--------------------------|
| WG-05                 | 1                          | 0                        |
| WS-05                 | 1                          | 7                        |
| WG-06                 | 8                          | 8                        |
| WS-06                 | 3                          | 3                        |
| WG-07                 | 1                          | 0                        |
| WS-07                 | 10                         | 6                        |
| WG-08                 | 69                         | 66                       |
| WL-08                 | 1                          | 3                        |
| WS-08                 | 2                          | 2                        |
| WG-09                 | 4                          | 2                        |
| WG-10                 | *                          | 1                        |
| XP-08                 | *                          | 1                        |

\* Denotes less than 1 percent

NOTE: Percentages may not equal 100 due to rounding



the close correspondence between percentages of assigned military and the percentages in the actual survey sample. As indicated, the survey sample for this study is both representative and comprehensive.

### Task Factor Administration

In addition to filling out a job inventory, selected senior NCOs were asked to complete a second booklet. This second booklet, identical to the job inventory except in the biographical and background sections, is used to gather information for either training emphasis (TE) or task difficulty (TD). These booklets are processed separately from the job inventories. The task rating information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Task difficulty is defined as the length of time an average airman needs to learn to do a task satisfactorily. Given this definition, 36 senior technicians rated the difficulty of all inventory tasks on a 9-point scale (from extremely low to extremely high). To ensure validity of the ratings, each technician's ratings were compared to those of every other senior technician rater. A statistical measure of their agreement, known as interrater reliability (as assessed through components of variance of standard group means), was computed at .92, indicating high agreement among these 36 raters. Task difficulty ratings were adjusted so tasks of average difficulty would have ratings of 5.00. The resulting data are essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Job Difficulty Index (JDI). After processing the data obtained from TD raters, it is then possible to compute a Job Difficulty Index (JDI) for the jobs identified in the survey analysis. An equation using the number of tasks performed and the average difficulty per unit time spent as variables is the basis for the JDI computation. The index ranges from 1.00 for very easy jobs to 25.00 for very difficult jobs. The indices are adjusted so the average JDI is 13.00. This index provides a relative measure of the difficulty of jobs within a specialty. Hence, the more time a group spends on more difficult rated tasks, and the more tasks they perform, the higher the JDI for that job.

Training Emphasis (TE). Training emphasis is a rating of which tasks require structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Experienced technicians (primarily 7-skill level) completing TE booklets were asked to rate tasks on a 10-point scale (from no training emphasis to extremely high training emphasis). Ratings were independently collected from 43 senior NCOs stationed worldwide. The interrater reliability, assessed similarly to the TD coefficient, was .93. Likewise, this indicates good agreement among the raters as to which tasks required some form of structured training and which did not. The average TE rating was 3.30, with a standard deviation of 1.61. These data also provide essentially a rank ordering of tasks, whereby those with the highest ratings are perceived as most important for structured training among first-enlistment personnel.

Task factor ratings (TE and TD) provide objective information which should be used along with percent members performing data when making training decisions. While task factor ratings provide insights on which tasks need training and how much training time is required, percent members performing data provide information on who and how many personnel actually perform the tasks. Using these factors, in conjunction with appropriate training documents and directives, career ladder managers can tailor training programs to accurately reflect the needs of the user by more effectively determining when, where, and how to train assigned personnel.

### Data Processing and Analysis

Once job inventories are returned from the field, task responses and background information are optically scanned. Other biographical information (such as name, base, etc.) are keypunched onto disks and entered directly into the computer. Once both sets of data are in the computer, they are merged to form a complete case record for each respondent. Comprehensive Occupational Data Analysis Programs (CODAP) are then applied to the data.

CODAP produces job descriptions for groups of survey respondents based on their ratings of specific tasks. These job descriptions provide information on percent members performing each task, the relative percent time spent performing tasks, and the cumulative percent time spent by all members performing each task in the inventory. In addition to the job descriptions, the computer produces summaries that show how members of each group responded to each background item. Background items aid in identifying characteristics of the group, such as DAFSCs represented, time in career field, equipment and pesticide usage, percent military versus civilian members, and job satisfaction levels.

### **SPECIALTY JOBS** (Career Ladder Structure)

One of the most important functions of the USAF Occupational Analysis Program is to identify the various jobs performed within a career ladder, as well as how these jobs relate to each other. This is accomplished by examining what incumbents indicate they are actually doing in the field, rather than what official career ladder documents dictate they should be doing. The automated job clustering program inherent in the CODAP system plays an integral part in the analysis of the actual job structure for a career ladder. This job information is used for varied purposes by a number of agencies, such as: (1) HQ AFMPC in areas involving the USAF Personnel Classification System; (2) training community in providing the most cost-effective training to meet specialty needs; and (3) AFHRL in maintaining a data base of USAF occupations.

Additionally, job information is used to analyze career progression patterns and specialty documents (AFR 39-1 Specialty Description, Specialty Training Standard, etc.) to identify needed changes. Job data are also used to identify morale problems, trends, and to highlight issues needing management attention.

The structure of the Pest Management career ladder was determined on the basis of similarities or differences in tasks performed by AFSC 566X0 and OCSRS 5026 personnel. For purposes of this report, these similarities or differences in task performance will be defined in terms of job types and clusters. Each person in the study performs a subset of tasks - a Job. When compared with other personnel who perform the same or similar tasks and spend similar amounts of time performing these tasks, they group together to form a Job Type. A group of job types which have a high degree of similarity group to form a Cluster. In this section, functions of job types within clusters will be fully described in terms of task performance and demographics at the cluster level. In addition, tables which provide additional information and support the narrative descriptions will be included. (Tables displaying selected background and task information for all jobs are provided in Appendix A.)

### Overview

It is important to remember this is a joint survey containing both military and civilian members. While the two populations will be discussed separately in some of the later sections, they are combined for the purpose of specialty job descriptions. This is due to the fact that jobs are formed based upon task performance rather than background characteristics. The titles given to these jobs are based upon composite job descriptions for the group members, job titles written in by survey respondents, and on background information responses. The military and civilian mix in terms of task performance is excellent. In other words, personnel from both groups utilize the same tasks in the performance of their jobs. (See Appendix A for a comparison of military versus civilian tasks.)

Based on overlap in tasks performed and percent time spent on tasks, there are two major divisions between the jobs identified in the Pest Management career ladder. Figure 1 is a pie chart representation of the clusters found to exist in the career ladder structure. The GRP numbers by each group, which have no mathematical or statistical significance, are computer-printed identifiers used to define aggregations of personnel. The letter "N" refers to the number of personnel in the group.

#### I. SENIOR PEST MANAGEMENT PERSONNEL (GRP026, N=382)

- A. Pest Management Technician-Supervisors (GRP068, N=208)
- B. General Pest Management Personnel (GRP051, N=148)
- C. Pest Management Shop NCOICs (GRP053, N=17)

#### II. JUNIOR PEST MANAGEMENT PERSONNEL (GRP024, N=39)

## PEST MANAGEMENT SPECIALTY JOB STRUCTURE

( N = 452 )

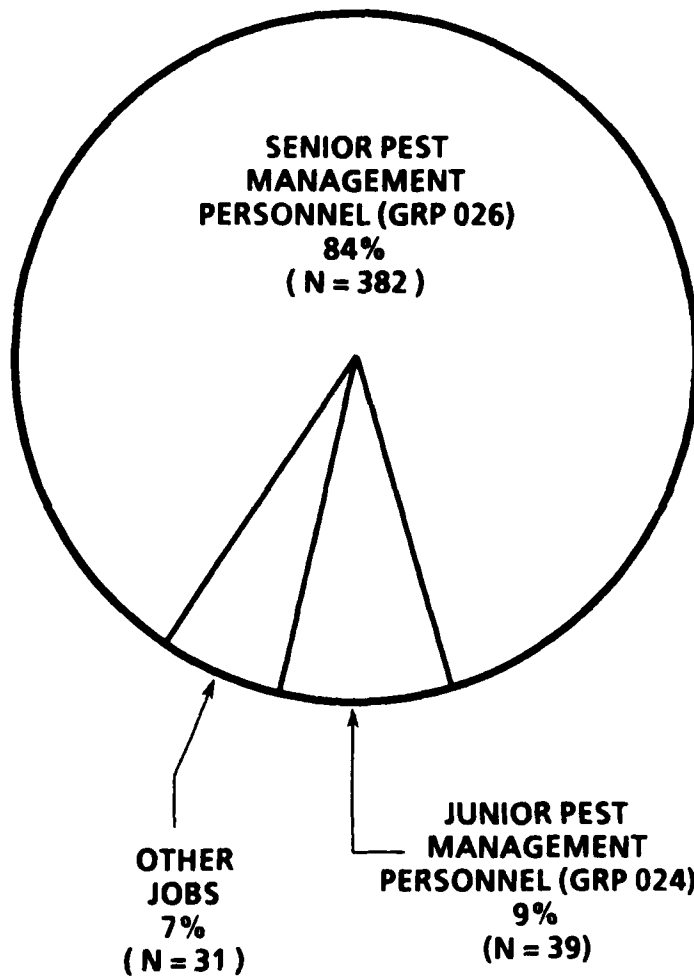


Fig. 1

Military and civilian respondents performing the above mentioned jobs account for 93 percent of the total survey sample. The other 7 percent (31 people) perform jobs that differ from those above based on mission requirements, contingency assignments, temporary conditions, or the manner in which they perceive their job.

### Descriptions of Pest Management Jobs

The control of plant and animal pests is just one example of the varied missions falling under the auspices of Base Civil Engineering (BCE). The Operations Unit, of which the Sanitation career field (AFSC 566XX) is an integral part, has the responsibility to direct, coordinate, and control all work approved and authorized to be done by the BCE work force. Personnel assigned to AFSC 566X0 are primarily responsible for performing procedures for implementing, conducting, and evaluating Pest Management programs to achieve safe, effective, and economical control and prevention of plant and animal pests. Pests include various insects and related lower animals, terrestrial and aquatic plants, rodents, birds, snakes, snails, fungi, wood borers, and other organisms that are not desirable.

The Major Commands are responsible for ensuring that effective, preventive, and corrective pest control programs are established and maintained at installations under their jurisdiction. This is accomplished, in part, through certification of military and civilian pest management personnel in accordance with specifications set forth by the Department of Defense Plan for Certification of Pesticide Applicators. Once obtained, certification is valid for 3 years from the last day of certification training, unless revoked by MAJCOM. Certification categories vary by MAJCOM and include the following:

1. Agricultural Pest Control, Animal
2. Agricultural Pest Control, Plant
3. Forest Pest Control
4. Ornamental and Turf Pest Control
5. Seed Treatment
6. Aquatic Pest Control
7. Industrial, Institutional, Structural, and Health Related Pest Control
8. Public Health Pest Control
9. Regulatory Pest Control
10. Demonstration and Research Pest Control
11. Aerial Application Pest Control

Brief descriptions of jobs identified within the Pest Management career ladder are presented below, along with samples of tasks performed which illustrate the nature of each job. MAJCOM certification will be discussed in relation to task performance characteristics of the specialty jobs. In addition, selected background data for these jobs are provided in Table 3.

I. SENIOR PEST MANAGEMENT PERSONNEL (GRP026, N=382). As related in the title, personnel comprising this job are the most senior members in the survey sample, particularly in terms of experience level (average of 79 months in

TABLE 3  
SELECTED BACKGROUND DATA FOR PEST MANAGEMENT SPECIALTY JOBS

|                                      | <u>JUNIOR PEST MANAGEMENT<br/>PERSONNEL CLUSTER (GRP024)</u> | <u>SENIOR PEST MANAGEMENT<br/>PERSONNEL CLUSTER (GRP026)</u> |
|--------------------------------------|--|--|
| NUMBER IN GROUP                      | 39   | 382  |
| PERCENT OF SAMPLE                    | 9  | 84   |
| MILITARY                             | 97   | 79   |
| CIVILIAN                             | 3  | 21   |
| PERCENT CONUS                        | 92   | 82   |
| <hr/>                                |  |  |
| DAFSC DISTRIBUTION                   |  |  |
| 56630                                | 64   | 19   |
| 56650                                | 28   | 45   |
| 56670                                | 5  | 15   |
| <hr/>                                |  |  |
| AVG MILITARY PAYGRADE                | AMN  | SRA/SGT  |
| AVG MOS IN CAREER FIELD (TICF)       | 18   | 79   |
| AVG MOS IN SERVICE (TAFMS)           | 21   | 73   |
| AVG MOS FEDERAL CIVIL SERVICE (FCS)  | 9  | 220  |
| <hr/>                                |  |  |
| PERCENT IN FIRST ENLISTMENT          | 90   | 44   |
| <hr/>                                |  |  |
| PERCENT SUPERVISING                  | 3  | 35   |
| AVG NUMBER OF TASKS PERFORMED        | 52   | 170  |
| JOB DIFFICULTY INDEX (AVG JDI=13.00) | 5.31   | 14.36  |

\* May not equal 100 percent due to rounding or nonresponse

career field). Eighty-four percent of the sample are represented by this group, of which 79 percent are military personnel and 21 percent are civilians. Military members performing this job indicate an average of 73 months service time, with 56 percent beyond their first-enlistment. While these incumbents perform a wider range of pest management tasks (N=170) at a higher difficulty level (JDI=14.36) than their less experienced counterparts, their average paygrade was E-4 (Senior Airman (SrA)/Sergeant (Sgt)). Forty-five percent of this group have the 5-skill level. The wage grade distribution among civilian members ranges from WS-05 to WS-08, with the largest percentage indicating WG-08. Sixty-nine percent work in shops having 4-9 Pest Management specialists in a variety of geographical locations. Direct supervisory activities are performed by 35 percent of the group, while many of the remaining members are responsible for demonstrating, training, and observing inexperienced or noncertified personnel in a broad array of pest management application techniques. Better than 44 percent of these members have MAJCOM certification in the five major categories required by Air Force:

- Aquatic Pest Control
- Industrial, Institutional, Structural, and Health-Related Pest Control
- Ornamental and Turf Pest Control
- Public Health Pest Control
- Right-of-Way Pest Control

Hence, there is a mixture of supervisory, administrative, training, general, and specialized technical tasks performed by incumbents in this cluster of jobs. Two percent of the members within this job have the "T" prefix (resident training). Examples of tasks performed by Senior Pest Management Personnel include:

- review AFR 91-21 to determine pest management procedures
- evaluate effectiveness of insecticide applications
- coordinate work activities with other CE shops
- plan work assignments
- conduct surveys for household pests
- inventory pesticides
- direct maintenance of administrative files
- determine insecticide application methods
- identify household pests
- conduct surveys for structural pests
- prepare herbicide emulsions

Three job variations are performed by personnel within this cluster. Fifty-four percent of these incumbents are identified as Pest Management Technician-Supervisors (GRP068), performing higher level technical tasks and some supervisory tasks. Cumulatively, this job is greater in scope (largest number of tasks performed) and difficulty level (JDI=17.17) of all jobs or variations of jobs identified for this career ladder. In addition, these individuals provide orientation and OJT to newly assigned personnel, while performing many functions relegated by the shop NCOIC, such as coordinating

work with other functions within and outside the installation. Civilian members performing this function identified themselves as shop foremen or journeyman level employees, while military respondents wrote in Assistant NCOIC as the corresponding job title.

While General Pest Management Personnel (GRP051) also perform a wide range of pest management tasks, they are distinguished from other variations within the cluster by extremely low percentages of members performing supervisory tasks. Here again, slight distinctions based upon the amount of time spent on certain groups of tasks, lead to the identification of personnel spending more time performing such functions as: (1) surveying, (2) equipment and facilities maintenance, and (3) supply and materials management, in addition to a common set of technical tasks performed by the majority of survey respondents regardless of experience level or MAJCOM certification status.

On the other hand, another job identified within the Senior Pest Management Personnel cluster of jobs, differs from the others described due to the dominance of supervisory tasks accounting for a relatively large percentage of their total job time. This group of Pest Management Shop NCOICs (GRP053) contains 70 percent military and 30 percent civilian members having an average of 15 years in the career field. These pest managers are responsible for the overall effectiveness of the total pest control program for their base of assignment.

II. JUNIOR PEST MANAGEMENT PERSONNEL (GRP024, N=39). This specialty job contains 9 percent of the survey sample. These members hold an average pay-grade of E-2 (Amn), have an average of 18 months in the career field, and 64 percent have a 3-skill level. They have an average of 10 months in their present job. Military personnel account for 97 percent of the group (all but 1 respondent was military), and 90 percent are in their first-enlistment. Fifty-six percent of these members do not hold MAJCOM certification in any category; therefore, they do not perform pest management application techniques that require certification. This accounts for the limited average number of tasks performed (N=52). Many tasks performed by these junior personnel are under the direct supervision of a certified pest manager and, overall, are relatively easy (JDI=5.31). Personnel working at this level receive advice and instruction on expected problems and work methods from the more senior personnel. Typical tasks performed by members of this group include:

- clean, wash, and dry safety equipment
- inspect personal safety equipment
- clean hand equipment
- apply liquid insecticides using compressed air sprayers
- prepare herbicide emulsions
- maintain pesticide storage areas
- remove nests from trees, shrubs, or structures
- transport pesticides
- place or inspect rodent traps
- identify household pests



Similarly, as in the Senior Pest Management job, Junior Pest Management Personnel perform some variations of the core job identified above based on percent time spent on certain groups of tasks. For example, some members of the group spend more time performing tasks pertaining to specific pest management problem areas, such as termite control, herbiciding-insecticiding, and vertebrate control.

### Summary

Overall, jobs identified within this AFSC show a high degree of similarity in terms of tasks performed. As illustrated in Figure 1, only two major jobs were identified. In addition, only three factors distinguish between the jobs: (1) number of tasks performed - personnel within certain jobs perform additional tasks in conjunction with core pest management functions performed by all members; (2) time spent on specific groups of tasks - some incumbents spend larger amounts of time performing specialized functions, such as herbiciding, than their counterparts; and (3) experience level - as indicated by average time in service and skill-level. The career ladder structure broke out much as expected - senior personnel perform jobs which are broader in scope encompassing tasks at a higher difficulty and experience level than their more junior counterparts.

### Civilian Vs Military Jobs

The military and civilian mix across specialty jobs was examined. The jobs identified for this career ladder contained 75 percent military personnel and 25 percent civilians. Both military and civilians are well represented in the major jobs - with one exception. The job described for Junior Pest Management Personnel contained only one civilian member. This may be attributed to the somewhat higher entrance requirement stipulated in the civilian job grading standard for "Pest Controllers" (WG-5026) set forth by the Office of Personnel Management (OPM).

Job groups which have civilians as members were examined to determine military-civilian differences. When the total number of military and civilians in the sample are compared, only slight differences are found. OSR data reveal only four tasks are performed by slightly larger percentages of military personnel than civilians (see Table 4). On the other hand, many tasks (N=228) are performed by somewhat larger percentages (greater than 10 percent members performing (PMP) difference) of civilians than their military counterparts. While the majority of these tasks relate to general pest management functions, some of them are distinguished not only by the larger PMP, but also by the greater percentage of time spent performing certain groups of tasks. For example, larger percentages of civilian members spend more time performing termite control functions than do military incumbents. It should be noted that, although a higher percentage of civilians perform these tasks, a significant number of military members also perform them. The findings rendered from these data show that while the percent members performing and time spent

TABLE 4

TASKS THAT BEST DISTINGUISH BETWEEN MILITARY AND CIVILIAN MEMBERS  
(PERCENT MEMBERS PERFORMING)

| TASKS  | CIVILIAN<br>MEMBERS<br>(N=93) | MILITARY<br>MEMBERS<br>(N=359) | DIFFERENCE |
|--|-------------------------------|--------------------------------|------------|
| H280 APPLY INSECTICIDES TO TRENCHES                            | 71                            | 39                             | +32        |
| G242 IDENTIFY BIRDS FREQUENTING AIRFIELDS OR STRUCTURES        | 69                            | 37                             | +31        |
| H287 DIG TRENCHES FOR TERMITE CONTROL                          | 63                            | 34                             | +29        |
| G234 CONDUCT SURVEYS FOR STORED PRODUCTS PESTS                 | 62                            | 36                             | +26        |
| G245 INSPECT LAWNS FOR HORTICULTURAL PESTS                     | 59                            | 35                             | +24        |
| A55 SCHEDULE PERIODIC TERMITE INSPECTIONS OR SURVEYS           | 61                            | 37                             | +24        |
| H293 INSPECT TERMITE SHIELDS                                   | 55                            | 31                             | +24        |
| H286 CLEAN UP AFTER TERMITE CONTROL OPERATIONS                 | 72                            | 48                             | +24        |
| H278 APPLY INSECTICIDES TO BUILDING PIERS                      | 44                            | 21                             | +23        |
| G255 INSPECT BUILDING SITES FOR STRUCTURAL PESTS               | 82                            | 59                             | +23        |
| H296 PLUG HARDWOOD FLOORS WITH WOOD PLYS                       | 33                            | 12                             | +21        |
| H281 APPLY INSECTICIDES TO UNTREATED LUMBER                    | 30                            | 11                             | +19        |
| C92 EVALUATE SAFETY PROGRAMS                                   | 41                            | 25                             | +16        |
| G257 INSPECT BUILDINGS OR HANGARS FOR BIRD PESTS               | 70                            | 54                             | +16        |
| G235 CONDUCT SURVEYS FOR STRUCTURAL PESTS                      | 77                            | 64                             | +13        |
| G248 IDENTIFY PLANT DISEASES                                   | 52                            | 40                             | +12        |
| H279 APPLY INSECTICIDES TO TERMITE MOUNDS                      | 28                            | 18                             | +10        |
| O446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYER    | 73                            | 84                             | -11        |
| O471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS            | 70                            | 84                             | -14        |
| O458 PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT | 65                            | 79                             | -14        |
| P512 PERFORM RASE CLEANUPS                                     | 13                            | 30                             | -17        |

on each task varies, both military and civilians perform essentially all tasks in the inventory. (See Appendix A for a listing of representative tasks performed by military and civilian members).

### Job Structure Comparison to Previous Survey

An OSR on the Pest Management specialty was last completed in May 1981 and included military personnel only (N=248); whereas, the current survey includes both military and civilian personnel (N=452). The career ladder structure in the previous report identified three major job groups: Senior Entomologists, Junior Entomologists, and Termite and Insect Control Personnel. Overall, in spite of the addition of civilians to the sample, very little has changed in the current survey. Tasks performed by members within jobs identified in the previous survey are very similar to tasks performed by their counterparts, now 5 years later, with some minor exceptions. The job described as Junior Entomologists in 1981 consisted primarily of members who were in their first-enlistment, and who spent a great deal of job time conducting surveys for various pests or performing delimited general functions. Comparatively, Junior Pest Management Personnel in the current survey, although highly similar in background characteristics to the previous group, spend less time conducting surveys for pest control requirements (10 percent of total job time). Variations of the primary job reveal these junior level incumbents now spend more time performing a limited number of tasks related to actual application techniques of pesticides. In addition, the limited number of tasks performed by Termite and Insect Control Personnel as described in the previous OSR are currently incorporated in the job characteristic of Junior Pest Management Personnel. Similarly, as identified in the previous survey, the major distinction between jobs stems from differences in experience level. Hence, it may be concluded that the Pest Management specialty remains a stable, homogeneous, technically oriented career ladder.

### ANALYSIS OF DAFSC GROUPS

The former sections examined the major jobs operating within the career ladder and identified those tasks each perform, as well as the subtle distinctions between military versus civilian personnel. In this section, the identification and analysis of similarities and differences in duty and task performance across the three skill levels provide information useful in the evaluation of the accuracy of career ladder documents, such as the duties and responsibilities as outlined in AFR 39-1 Specialty Descriptions. The average percent time spent performing duties across DAFSC groups within this career ladder is displayed in Table 5.

DAFSC 56630. The 3-skill level personnel, representing 22 percent (N=101) of the total sample and 28 percent of all military respondents, perform an average of 97 tasks. Sixty-three percent of these members indicate they have not obtained MAJCOM certification in any category. Hence, the vast majority of their job time is spent performing general tasks, such as clean,

TABLE 5

## AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY 566X0 DAFSC GROUPS

| DUTY TITLE   | DAFSC<br>56630<br>(N=101) | DAFSC<br>56650<br>(N=172) | DAFSC<br>56670<br>(N=62) |
|--|---------------------------|---------------------------|--------------------------|
| A ORGANIZING AND PLANNING  | 6                         | 9                         | 17                       |
| B DIRECTING AND IMPLEMENTING                                     | 2                         | 5                         | 9                        |
| C INSPECTING AND EVALUATING                                      | 1                         | 4                         | 9                        |
| D TRAINING   | 0                         | 3                         | 5                        |
| E PERFORMING ADMINISTRATIVE FUNCTIONS                            | 4                         | 7                         | 10                       |
| F MANAGING AND HANDLING PEST CONTROL<br>MATERIALS                | 22                        | 18                        | 13                       |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS                        | 14                        | 14                        | 11                       |
| H PERFORMING TERMITE CONTROL FUNCTIONS                           | 5                         | 4                         | 2                        |
| I PERFORMING INSECT CONTROL FUNCTIONS<br>(EXCEPT TERMITES)       | 11                        | 9                         | 6                        |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS                        | 7                         | 5                         | 3                        |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL                    | 0                         | 0                         | 0                        |
| L FUMIGATING FOR PEST CONTROL                                    | 1                         | 1                         | 0                        |
| M PERFORMING VEGETATION CONTROL FUNCTIONS                        | 2                         | 2                         | 2                        |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS<br>AND PEST CONTROL | 0                         | 0                         | 0                        |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND<br>FACILITIES        | 21                        | 16                        | 11                       |
| P PERFORMING GENERAL FUNCTIONS                                   | 3                         | 3                         | 2                        |

wash, and dry safety equipment; clean hand equipment; transport pesticides; perform operator maintenance on personal safety equipment; and dispose of dead animals. Averaging 17 months on active duty status, this group performs tasks that are relatively less difficult (JDI=9.19) than their more senior counterparts. Seventy-one percent work in Pest Management shops having 4-9 persons, with 37 percent being directly supervised by a civilian member.

The job described as Junior Pest Management Personnel consists largely of 3-skill level members (64 percent), as displayed in Table 3. In addition to the career ladder structure description, Table 6 lists tasks performed by this group to illustrate the kinds of tasks performed by the majority of 3-skill level personnel.

DAFSC 56650. The tasks performed by 5-skill level personnel are highly similar to those commonly performed by 3-skill level airmen, with the addition of some supervisory and administrative functions. Also, better than 35 percent of this group indicate MAJCOM certification in each of the five most commonly required categories: (1) Aquatic, (2) Industrial, Institutional, and Structural Health, (3) Ornamental and Turf, (4) Public Health, and (5) Right-Of-Way. As a result, these members perform tasks of greater difficulty (JDI=12.72). Eighty-seven percent of 5-skill level respondents perform the job identified as Senior Pest Management Personnel, with large percentages spending more time in specific functions, such as administration, shop and equipment maintenance, and facilities management. Table 7 presents a listing of tasks performed by substantial percentages of 5-skill level personnel and which account for a major portion of job their time.

DAFSC 56670. In contrast to the above skill level groups, tasks performed by 7-skill level personnel show some clear differences from their subordinates (see Table 8). While these members perform many of the same technical tasks as their less experienced counterparts, 35 percent of their total job time is spent performing supervisory functions, such as coordinating work activities, inspecting and evaluating pest infestations, and writing correspondence or APRs. Ninety-two percent of 7-skill level respondents grouped in the job described as Senior Pest Management Personnel. Overall, the job performed by these senior level members, averaging 171 months service time, is broader in scope (average number of tasks = 205) and of a higher difficulty level (JDI=17.37) than 3- and 5-skill level airmen, encompassing the full range of pest management activities.

### Summary

Generally, tasks performed by 3- and 5-skill level personnel are highly similar, with time spent on tasks being the major differentiating factor. On the other hand, 7-skill level respondents perform tasks distinguished from their subordinates in both relative percent time spent and percent members performing. As shown in Table 9, tasks performed by greater percentages of one skill level group are also performed by substantial percentages across the other two. Seven-skill level members perform virtually all technical tasks

TABLE 6  
REPRESENTATIVE TASKS PERFORMED BY DAFSC 56630 PERSONNEL

| TASKS   | PERCENT MEMBERS PERFORMING |
|---|----------------------------|
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT  | 94                         |
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT  | 92                         |
| J347 DISPOSE OF DEAD ANIMALS  | 89                         |
| 0435 CLEAN HAND EQUIPMENT   | 87                         |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS  | 87                         |
| F199 PREPARE INSPECTICIDE EMULSIONS   | 86                         |
| F210 TRANSPORT PESTICIDES   | 81                         |
| F209 TRANSPORT HAND EQUIPMENT   | 80                         |
| F208 TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT  | 78                         |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS  | 77                         |
| F185 INTERPRET PESTICIDE LABELS   | 76                         |
| G247 IDENTIFY HOUSEHOLD PESTS   | 75                         |
| I300 ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES   | 74                         |
| J357 PLACE OR INSPECT RODENT TRAPS  | 72                         |
| F189 MAINTAIN PESTICIDE STORAGE AREAS   | 72                         |
| F203 PREPARE RODENT BAITS   | 72                         |
| 0484 PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT   | 71                         |
| 0436 CLEAN PESTICIDE TANKS OR HOPPERS   | 71                         |
| F186 INVENTORY PESTICIDES   | 71                         |
| F179 DETERMINE RODENTICIDE APPLICATION METHODS  | 64                         |
| I332 CLEAN UP AFTER INSPECT CONTROL OPERATIONS  | 64                         |
| G256 INSPECT BUILDINGS FOR HOUSEHOLD PESTS  | 62                         |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS  | 60                         |
| 0465 PERFORM OPERATOR MAINTENANCE ON VEHICLES   | 60                         |
| F171 APPLY INSECTICIDE DUST DILUTIONS   | 60                         |
| F194 PREPARE HERBICIDE EMULSIONS  | 59                         |
| 0490 PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE  | 58                         |
| I304 APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND EQUIPMENT  | 57                         |
| G243 IDENTIFY DOMESTIC RODENTS  | 56                         |
| G226 CONDUCT SURVEYS FOR DOMESTIC RODENTS   | 56                         |
| 0433 CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COMPRESSED AIR SPRAYERS                                | 55                         |
| J359 REMOVE LIVE ANIMALS FROM ATTICS, VENTS, OR OTHER CONFINED AREAS  | 54                         |
| 0489 PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS                                    | 54                         |
| J360 REMOVE NESTS FROM TREES, SHRUBS OR STRUCTURES  | 53                         |
| E148 MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLE)) | 53                         |
| H288 DRILL CONCRETE SLABS USING POWERED HAMMERS   | 53                         |
| F177 DETERMINE HERBICIDE APPLICATION METHODS  | 51                         |

TABLE 7

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 56650 PERSONNEL

| TASKS   | PERCENT MEMBERS PERFORMING |
|---|----------------------------|
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES   | 92                         |
| F210 TRANSPORT PESTICIDES   | 91                         |
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT  | 90                         |
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT  | 89                         |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS  | 98                         |
| F209 TRANSPORT HAND EQUIPMENT   | 87                         |
| 0435 CLEAN HAND EQUIPMENT   | 85                         |
| F199 PREPARE INSECTICIDE EMULSIONS  | 85                         |
| F185 INTERPRET PESTICIDE LABELS   | 85                         |
| 0446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR<br>SPRAYERS                                 | 85                         |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS  | 85                         |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS   | 84                         |
| J347 DISPOSE OF DEAD ANIMALS  | 84                         |
| F208 TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL<br>EQUIPMENT                         | 81                         |
| B73 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES   | 79                         |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR<br>SPRAYERS                                 | 78                         |
| 0458 PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY<br>EQUIPMENT                               | 78                         |
| F175 DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS<br>REQUIRED FOR PEST CONTROL OPERATIONS | 78                         |
| G256 INSPECT BUILDINGS FOR HOUSEHOLD PESTS  | 78                         |
| J357 PLACE OR INSPECT RODENT TRAPS  | 77                         |
| 0484 PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT   | 76                         |
| F189 MAINTAIN PESTICIDE STORAGE AREAS   | 76                         |
| F200 PREPARE INSECTICIDE SOLUTIONS  | 73                         |
| A52 SCHEDULE OCCUPIED QUARTERS FOR TREATMENTS   | 68                         |
| 0465 PERFORM OPERATOR MAINTENANCE ON VEHICLES   | 66                         |
| F177 DETERMINE HERBICIDE APPLICATION METHODS  | 66                         |
| F203 PREPARE RODENT BAITS   | 64                         |
| I332 CLEAN UP AFTER INSECT CONTROL OPERATIONS   | 63                         |
| I334 EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS   | 63                         |
| 0489 PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED<br>HYDRAULIC SPRAYERS                   | 63                         |

TABLE 8  
REPRESENTATIVE TASKS PERFORMED BY DAFSC 56670 PERSONNEL

| TASKS  | PERCENT MEMBERS PERFORMING |
|--|----------------------------|
| A26 COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING (CE) SHOPS                       | 93                         |
| D438 INSPECT PERSONAL SAFETY EQUIPMENT   | 90                         |
| A22 COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS                        | 90                         |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS   | 90                         |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS  | 90                         |
| B72 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES                           | 88                         |
| B58 CONDUCT SHOP OR UNIT MEETINGS  | 88                         |
| B59 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS                               | 88                         |
| F204 RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS                                | 88                         |
| F206 REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT PROCEDURES                                | 88                         |
| F185 INTERPRET PESTICIDE LABELS  | 88                         |
| C102 INSPECT PESTICIDE STORAGE AREAS   | 88                         |
| A29 DETERMINE WORK PRIORITIES  | 88                         |
| B73 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES  | 87                         |
| 0446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS                                 | 87                         |
| F188 MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES  | 87                         |
| I300 ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES                                | 87                         |
| C86 EVALUATE EXTENT OF PEST INFESTATIONS   | 87                         |
| B79 SUPERVISE PEST MANAGEMENT SPECIALISTS (AFSC 56650)                                       | 85                         |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS                                 | 85                         |
| B68 IMPLEMENT SAFETY PROGRAMS  | 85                         |
| F175 DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS REQUIRED FOR PEST CONTROL OPERATIONS | 85                         |
| E147 MAKE ENTRIES ON AF FORMS 1445 (MATERIALS AND EQUIPMENT LIST)                            | 82                         |
| P498 DRIVE VEHICLES DURING PESTICIDE APPLICATIONS  | 82                         |
| E154 MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT)                               | 80                         |
| C104 PREPARE APRs  | 80                         |
| 0439 ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS  | 79                         |
| I334 EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS                                      | 77                         |
| C83 EVALUATE BASE PEST CONTROL PROGRAMS  | 75                         |
| B76 SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630)                              | 72                         |



TABLE 9  
TASKS DIFFERENTIATING BETWEEN AFSC 566X0 SKILL LEVEL GROUPS

| TASKS   | PERCENT MEMBERS PERFORMING |                |                |
|---|----------------------------|----------------|----------------|
|   | DAFSC<br>56630             | DAFSC<br>56650 | DAFSC<br>56670 |
| J347 DISPOSE OF DEAD ANIMALS  | 89                         | 84             | 74             |
| F200 PREPARE INSECTICIDE SOLUTIONS  | 79                         | 74             | 63             |
| F203 PREPARE RODENT BAITS   | 72                         | 65             | 47             |
| F196 PREPARE HERBICIDE SOLUTIONS  | 52                         | 50             | 39             |
| F198 PREPARE INSECT BAITS   | 49                         | 38             | 40             |
| P513 PERFORM JANITORIAL DETAILS   | 33                         | 29             | 11             |
| E161 MAKE ENTRIES ON DD FORMS 1070 (TERMITE AND WOOD DECAY INSPECTION)        | 52                         | 68             | 61             |
| G235 CONDUCT SURVEYS FOR STRUCTURAL PESTS                                     | 58                         | 67             | 65             |
| J360 REMOVE PESTS FROM TREES, SHRUBS OR STRUCTURES                            | 53                         | 54             | 40             |
| M407 APPLY LIQUID HERBICIDES TO GROUND SURFACES USING COMPRESSED AIR SPRAYERS | 46                         | 52             | 47             |
| F202 PREPARE POISON BAITS FOR BIRDS (OVICIDES)                                | 25                         | 32             | 19             |
| P497 DRIVE CIVIL ENGINEERING TAXIS  | 20                         | 26             | 3              |
| A26 COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING (CE) SHOPS        | 32                         | 62             | 94             |
| A51 SCHEDULE LEAVES OR PASSES   | 4                          | 22             | 84             |
| B64 DIRECT UTILIZATION OF EQUIPMENT   | 14                         | 38             | 77             |
| A27 COORDINATE WORK PROGRESS WITH CE SCHEDULING                               | 20                         | 37             | 76             |
| A31 DEVELOP WORK METHODS OR PROCEDURES  | 22                         | 38             | 74             |
| B76 SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630)               | 10                         | 47             | 73             |
| P501 ISSUE SAFETY EQUIPMENT   | 7                          | 23             | 71             |
| G225 CONDUCT SURVEYS FOR DISEASE VECTORS                                      | 22                         | 38             | 74             |
| G234 CONDUCT SURVEYS FOR STORED PRODUCTS PESTS                                | 20                         | 37             | 61             |
| E138 MAINTAIN AF FORMS 1284 (TRAINING QUALITY REPORT (TQR))                   | 18                         | 40             | 60             |
| O441 OVERHAUL PESTICIDE PUMPS   | 22                         | 38             | 50             |

performed by their subordinates, in addition to supervisory, administrative, and training tasks. Career ladder progression is well defined in terms of task performance.

#### COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

To verify the completeness and accuracy of AFSC 566X0 specialty job descriptions, survey data were compared to the 3-, 5-, and 7-skill level AFR 39-1 Specialty Descriptions dated April 1984. These descriptions accurately provide a broad overview of the duties and responsibilities inherent in the two major jobs operating within the Pest Management career ladder. No areas were omitted nor were any trends noted during analyses of career ladder structure or DAFSC groups which would require changes in the specialty descriptions at this time.

#### ANALYSIS OF EXPERIENCE (TAFMS) GROUPS

While analysis of a career ladder by DAFSC permits evaluation of AFR 39-1 specialty descriptions, analysis by TAFMS groups provides a basis for evaluation of career ladder utilization patterns as experience level increases. Table 10 demonstrates the average percentage of time spent on duties across TAFMS groups. The typical pattern of progression is indicated: as time in service increases so does the percent time spent on tasks in the supervisory, training, and administrative duties. Conversely, to a somewhat lesser degree, tasks in five of the most commonly performed technical duties of Managing and Handling Pest Control Materials, Duty F; Surveying for Pest Control Requirements, Duty G; Performing Termite Control Functions, Duty H; Performing Insect Control Functions (except Termites), Duty I; Performing Vertebrate Control Functions, Duty J; and Maintaining Pest Management Equipment and Facilities, Duty O show a gradual decline in percent members performing beyond the second enlistment period.

For members of all TAFMS groups, relatively small amounts of time are spent on technical tasks dealing with Fumigating (Duty L) and Vegetation Control (Duty M). Almost no time is spent by members of any TAFMS groups on tasks pertaining to Mollusk, Fungi, and Mold Control (Duty K) and Military Quarantine (Duty N). Generally, the percent of time spent performing duties across TAFMS groups parallels the percent time spent performing duties across DAFSC groups (reference Table 5). With increasing time in service, personnel take on responsibilities for exterminating a wider variety of pests and dealing with unusual problems or infestations, such as foreign pest species. Consequently, the experienced pest manager must exercise more judgement than the more junior airmen in determining appropriate control methods and in selecting chemicals, mediums, equipment, and application techniques. For example, if planning fogging operations in a swampy area, the experienced pest manager would determine the area to be covered, equipment and materials to be used,

TABLE 10  
AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY EXPERIENCE GROUPS

| DUTY TITLE   | MONTHS TAFMS    |                 |               |
|--|-----------------|-----------------|---------------|
|  | 1-48<br>(N=210) | 49-96<br>(N=50) | 97+<br>(N=98) |
| A ORGANIZING AND PLANNING  | 7               | 11              | 15            |
| B DIRECTING AND IMPLEMENTING                                     | 2               | 6               | 8             |
| C INSPECTING AND EVALUATING                                      | 2               | 4               | 8             |
| D TRAINING   | 1               | 3               | 5             |
| E PERFORMING ADMINISTRATIVE FUNCTIONS                            | 5               | 7               | 11            |
| F MANAGING AND HANDLING PEST CONTROL<br>MATERIALS                | 21              | 17              | 13            |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS                        | 14              | 15              | 11            |
| H PERFORMING TERMITE CONTROL FUNCTIONS                           | 5               | 4               | 2             |
| I PERFORMING INSECT CONTROL FUNCTIONS<br>(EXCEPT TERMITES)       | 10              | 8               | 6             |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS                        | 6               | 5               | 3             |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL                    | *               | *               | *             |
| L FUMIGATING FOR PEST CONTROL                                    | 1               | 1               | 1             |
| M PERFORMING VEGETATION CONTROL FUNCTIONS                        | 2               | 2               | 2             |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS<br>AND PEST CONTROL | *               | *               | 1             |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND<br>FACILITIES        | 20              | 14              | 11            |
| P PERFORMING GENERAL FUNCTIONS                                   | 3               | 2               | 2             |

method of application, and the time of day to apply the chemicals. As expected, since the major emphasis of the pest management job is technical, the primary job performed across all enlistment groups is devoted to technical functions.

## TRAINING ANALYSIS

Occupational survey data are one of the many sources of information that can be used as a guide in developing training programs for first-termers. Several factors may be used in evaluating training. These factors include information related to: (1) the overall description of the job being performed by first-enlistment personnel and their distribution across specialty jobs; (2) percentages of first-job (1-24 months TAFMS) or first-enlistment (1-48 months TAFMS) members performing specific groups of tasks or using certain equipment/pesticides; and (3) training emphasis (TE) and task difficulty (TD) ratings.

Ratings provided by career ladder subject-matter experts yielded an average TE rating of 3.30, with a standard deviation of 1.61. Tasks rated 4.91 or better (average TE + 1 standard deviation) are considered high in terms of providing structured training for first-term airmen. Table 11 lists examples of tasks rated highest in TE by subject-matter experts in the field. These specialists identified tasks pertaining to the duties of Managing and Handling Pest Control Materials (Duty F), Maintaining Pest Management Equipment and Facilities (Duty O), and Surveying for Pest Control Requirements (Duty G) as strongly requiring some form of structured training for first-term personnel in this career ladder. This corresponds with the data presented in Table 10, which shows first-termers spending the largest percentage of their job time in these three functional areas. In addition, except for three tasks involving skid-mounted hydraulic sprayers and emergency decontamination procedures, all other tasks receiving high TE ratings, are performed by substantial percentages of the targeted population as well as the career ladder as a whole.

Task difficulty ratings were adjusted to an average of 5.00 and a standard deviation of 1.00. Hence, tasks having a rating of 6.00 (the sum of the average TD + 1 standard deviation) or better are considered very difficult for the average airmen to learn to do satisfactorily. In addition, as stipulated in the Course Training Decision Table in ATRC 52-22, any task receiving a rating of 3.00 or better in difficulty should be reviewed for possible inclusion in a centralized training program. Subject-matter experts agreed upon 86 tasks as having the highest task difficulty. The majority of these tasks reflect supervisory, training, or fumigation activities (see Table 12). Twenty-five (almost 30 percent) of the most difficult tasks for this career ladder show less than 20 percent members performing across all skill level groups. Of these 25 tasks, 8 are also rated high in TE (all fumigation tasks); yet, they are performed by low percentages of first-termers as well as higher skill level groups. Therefore, the inferences that may be drawn from these data are that the majority of personnel in this career ladder do not perform fumigation procedures; although, tasks pertaining to this function are

TABLE 11

## EXAMPLES OF TASKS RATED HIGHEST IN TRAINING EMPHASIS

| TASKS   | TNG<br>EMP* | PERCENT MEMBERS PERFORMING |            |       |       | TASK<br>DIF** |
|---|-------------|----------------------------|------------|-------|-------|---------------|
|   |             | 1ST<br>JOB                 | 1ST<br>ENL | 56650 | 56670 |               |
| F185 INTERPRET PESTICIDE LABELS   | 7.33        | 76                         | 81         | 85    | 88    | 4.90          |
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT  | 6.88        | 91                         | 91         | 88    | 90    | 4.12          |
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT  | 6.70        | 89                         | 92         | 89    | 88    | 3.97          |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS  | 6.63        | 85                         | 88         | 87    | 82    | 3.38          |
| I329 APPLY OUTDOOR FOGS USING ULV GENERATORS  | 6.56        | 44                         | 52         | 52    | 59    | 5.47          |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR<br>SPRAYERS                         | 6.44        | 76                         | 77         | 78    | 85    | 4.35          |
| F210 TRANSPORT PESTICIDES   | 6.39        | 80                         | 87         | 90    | 85    | 3.01          |
| F199 PREPARE INSECTICIDE EMULSIONS  | 6.37        | 83                         | 86         | 84    | 87    | 4.29          |
| F180 DETERMINE SIGNS AND SYMPTOMS OF PESTICIDE POISONING                                | 6.30        | 27                         | 35         | 42    | 58    | 6.15          |
| F208 TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL<br>EQUIPMENT                 | 6.28        | 75                         | 81         | 81    | 82    | 3.51          |
| F201 PREPARE INSECTICIDE SUSPENSIONS  | 6.19        | 60                         | 63         | 65    | 74    | 4.41          |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS                                     | 6.12        | 80                         | 81         | 83    | 90    | 3.90          |
| 0435 CLEAN HAND EQUIPMENT   | 6.09        | 85                         | 87         | 84    | 80    | 3.77          |
| F183 IMPLEMENT EMERGENCY DECONTAMINATION  | 6.05        | 11                         | 15         | 22    | 38    | 5.32          |
| F200 PREPARE INSECTICIDE SOLUTIONS  | 6.00        | 75                         | 80         | 73    | 62    | 4.37          |
| F206 REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT<br>PROCEDURES                        | 5.93        | 40                         | 49         | 64    | 88    | 4.67          |
| 0488 PREOPERATIONALLY CHECK ULV GENERATORS  | 5.88        | 44                         | 52         | 55    | 58    | 4.77          |
| F186 INVENTORY PESTICIDES   | 5.86        | 73                         | 80         | 88    | 88    | 3.14          |
| H282 APPLY INSECTICIDES USING SUBSLAB INJECTION UNITS                                   | 5.84        | 50                         | 53         | 51    | 46    | 5.62          |
| G247 IDENTIFY HOUSEHOLD PESTS   | 5.81        | 72                         | 80         | 82    | 82    | 4.93          |
| 0464 PERFORM OPERATOR MAINTENANCE ON VEHICLE- OR TRAILER-<br>MOUNTED HYDRAULIC SPRAYERS | 5.81        | 51                         | 56         | 62    | 64    | 5.40          |
| 0491 REMOVE PEST MANAGEMENT EQUIPMENT FROM WINTER STORAGE                               | 5.79        | 31                         | 41         | 53    | 67    | 4.64          |

\* Average Training Emphasis = 3.30, with SD of 1.61

\*\* Average Task Difficulty = 5.00, with SD of 1.00

TABLE 12

## EXAMPLES OF TASKS RATED HIGHEST IN TASK DIFFICULTY

| TASKS   | TASK<br>DIF* | PERCENT MEMBERS<br>PERFORMING |                |                | TNG<br>EMP** |
|---|--------------|-------------------------------|----------------|----------------|--------------|
|   |              | 1ST<br>ENL                    | DAFSC<br>56650 | DAFSC<br>56670 |              |
| G239  | 7.74         | 1                             | 2              | 3              | 0            |
| A33   | 7.63         | 3                             | 9              | 22             | 0            |
| H290  | 7.61         | 4                             | 5              | 6              | 3            |
| A18   |              |                               |                |                |              |
| DRAW BLOOD (VENIPUNCTURE) FROM FIELD RODENTS        |              |                               |                |                |              |
| EDIT PEST CONTROL CONTRACTS FOR TECHNICAL ADEQUACY  |              |                               |                |                |              |
| FUMIGATE STRUCTURES FOR DRY WOOD TERMITE CONTROL    |              |                               |                |                |              |
| COORDINATE DISSEMINATION OF PESTICIDES WITH SPECIAL |              |                               |                |                |              |
| AERIAL SPRAY FLIGHTS (SASF)                         |              |                               |                |                |              |
| C84   | 7.41         | 2                             | 5              | 8              | 0            |
| A32   | 7.40         | 2                             | 8              | 35             | 0            |
| C107  | 7.31         | 1                             | 6              | 32             | 0            |
| B67   | 7.25         | 1                             | 6              | 29             | 1            |
| OTHER THAN TRAINING REPORTS                         |              |                               |                |                |              |
| IMPLEMENT CONTROL PROCEDURES PROHIBITING            |              |                               |                |                |              |
| TRANSPORTATION OF PESTS FROM NATIVE HABITATS        |              |                               |                |                |              |
| C104  | 7.24         | 2                             | 4              | 16             | 1            |
| L384  | 7.20         | 2                             | 28             | 80             | 2            |
| H294  | 7.13         | 1                             | 2              | 4              | 3            |
| P510  | 7.10         | 15                            | 17             | 30             | 2            |
| L387  | 7.04         | 0                             | 0              | 1              | 0            |
| L385  | 6.95         | 1                             | 1              | 0              | 2            |
| I337  | 6.94         | 1                             | 4              | 0              | 2            |
| A41   | 6.93         | 16                            | 20             | 21             | 2            |
| L386  | 6.91         | 12                            | 28             | 72             | 2            |
| A46   | 6.90         | 1                             | 4              | 3              | 3            |
| C87   | 6.80         | 1                             | 8              | 22             | 1            |
| D130  | 6.77         | 1                             | 11             | 66             | 1            |
|   | 6.77         | 1                             | 7              | 21             | 1            |
| PREPARE INPUT FOR ENVIRONMENTAL PROTECTION IMPACT   |              |                               |                |                |              |
| STATEMENTS  |              |                               |                |                |              |
| EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR    |              |                               |                |                |              |
| RECLASSIFICATION                                    |              |                               |                |                |              |
| WRITE TEST QUESTIONS                                |              |                               |                |                |              |

\* Average Task Difficulty = 5.00, with SD of 1.00

\*\* Average Training Emphasis = 3.30, with SD of 1.61

regarded by subject-matter experts as very difficult to learn to do and strongly require some form of structured training for first-term airmen. The training decision that may be drawn from this set of data, tempering the above three factors, could be in favor of providing OJT for fumigation procedures to career ladder members instead of resident training. (For a complete discussion on the derivation of TE and TD ratings please refer to the Task Factor Administration section of this report.)

To facilitate in the evaluation of the AFSC 566X0 Specialty Training Standard (STS) and Plan of Instruction (POI), technical school personnel at Sheppard Technical Training Center matched job inventory tasks to appropriate sections of the STS and POI, dated January 1983 and February 1984, respectively. It was these matchings upon which comparisons to the training documents were based. It should be noted that comments and tables presented in this section pertaining to questionable elements (or lack of elements) in the training documents are intended to highlight what appear to be problem areas. A complete computer listing displaying percent members performing tasks, training emphasis and task difficulty ratings for each task, along with STS and POI matchings, has been forwarded to the technical school for its use in further detailed reviews of training documents. Summaries of that data and information follow.

Because one of the most basic premises for conducting ABR training is to provide the graduate with the necessary skills and knowledge to perform the jobs and tasks most likely to be encountered in the first 4 years of service, an in-depth, detailed evaluation of the first-enlistment group will precede the discussion of the analysis of career ladder training documents. (Data used in the analysis for this section of the OSR may be found in computer listings contained in the TRAINING EXTRACT.)

#### Analysis of First-Enlistment Personnel

Nearly one-half of the survey sample and 58 percent of all military respondents are in their first-enlistment and have spent an average of 21 months in the Pest Management career ladder. The average paygrade for these incumbents is E-3; however, 53 percent have been awarded the 5-skill level. These airmen perform an average of 111 tasks in jobs having a difficulty level somewhat below average (JDI=10.34), on the whole. As graphically displayed in Figure 2, the distribution of first-termers in the two major jobs for this AFSC nearly mirrors the distribution of the total sample: the majority of first-enlistment personnel perform the job described as Senior Pest Management Personnel. This is as expected, since the majority of incumbents performing this job have the 5-skill level, as do the majority of first-termers.

The majority of first-termers' job time is spent performing three functions - Managing and Handling Pest Control Materials (Duty F), Maintaining Pest Management Equipment and Facilities (Duty O), and Surveying for Pest Control Requirements (Duty G). Table 13 lists those tasks accounting for the largest percentage of time spent on the job by first-enlistment personnel. Note that only 11 tasks representative of first-termers' job performance are performed by larger percentages of this group than for other experience level

**DISTRIBUTION OF 566X0 FIRST-ENLISTMENT  
PERSONNEL ACROSS SPECIALTY JOBS**  
( N = 210 )

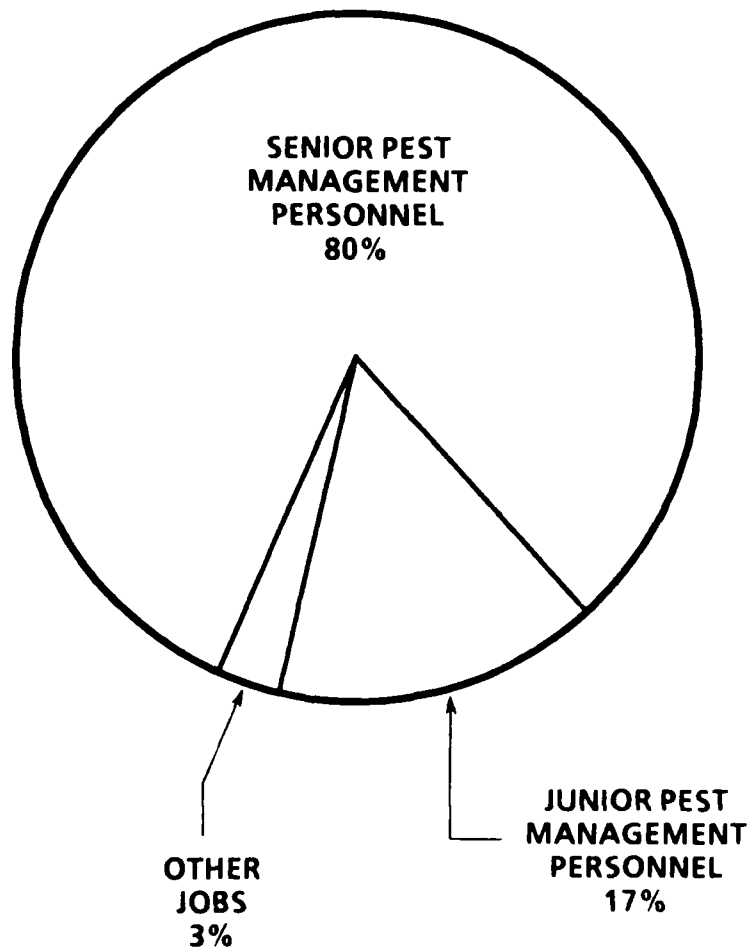


Fig. 2



TABLE 13

REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT PERSONNEL  
(COMPARISON OF PERCENT MEMBERS PERFORMING ACROSS TAFMS GROUPS)

| TASK  | PERCENT MEMBERS PERFORMING |       |     |  |
|---|----------------------------|-------|-----|--|
|   | MONTHS TAFMS               |       |     |  |
|   | 1-48                       | 49-96 | 97+ |  |
| *0438 INSPECT PERSONAL SAFETY EQUIPMENT                               | 92                         | 90    | 88  |  |
| *0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT                           | 92                         | 90    | 86  |  |
| *F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES                    | 91                         | 88    | 87  |  |
| *J347 DISPOSE OF DEAD ANIMALS   | 90                         | 82    | 71  |  |
| *0435 CLEAN HAND EQUIPMENT  | 88                         | 86    | 79  |  |
| *F199 PREPARE INSECTICIDE EMULSIONS                                   | 87                         | 86    | 83  |  |
| 0446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS          | 84                         | 86    | 85  |  |
| F209 TRANSPORT HAND EQUIPMENT   | 84                         | 92    | 84  |  |
| F185 INTERPRET PESTICIDE LABELS                                       | 82                         | 86    | 85  |  |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS                   | 81                         | 90    | 88  |  |
| *0458 PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT       |                            |       |     |  |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS                        | 81                         | 80    | 77  |  |
| *F200 PREPARE INSECTICIDE SOLUTIONS                                   | 80                         | 86    | 87  |  |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS          | 80                         | 74    | 58  |  |
| 0436 CLEAN PESTICIDE TANKS OR HOPPERS                                 | 77                         | 94    | 83  |  |
| F189 MAINTAIN PESTICIDE STORAGE AREAS                                 | 76                         | 82    | 72  |  |
| *F203 PREPARE RODENT BAITS  | 72                         | 80    | 82  |  |
| F179 DETERMINE RODENTICIDE APPLICATION METHODS                        | 71                         | 68    | 46  |  |
| *0465 PERFORM OPERATOR MAINTENANCE ON VEHICLES                        | 71                         | 84    | 80  |  |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS                              | 66                         | 60    | 65  |  |
| 0439 ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS                     | 65                         | 72    | 71  |  |
| I332 CLEAN UP AFTER INSECT CONTROL OPERATIONS                         | 65                         | 74    | 76  |  |
| J356 PLACE OR INSPECT POISON DOMESTIC RODENT BAITS                    | 64                         | 74    | 57  |  |
| A52 SCHEDULE OCCUPIED QUARTERS FOR TREATMENTS                         | 64                         | 68    | 57  |  |
| *H288 DRILL CONCRETE SLABS USING POWERED HAMMERS                      | 56                         | 74    | 81  |  |
| A22 COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 56                         | 54    | 43  |  |
| 0479 PREOPERATIONALLY CHECK NONPOWERED HAND EQUIPMENT                 | 54                         | 76    | 83  |  |
|   | 51                         | 50    | 62  |  |

\* Denotes highest percent first-termers performing

groups. These findings further demonstrate the highly-technical orientation of the Pest Management career ladder, in which most members perform a set of core technical tasks expanding in scope with increased time in service.

Fifty-five percent of these airmen spend 4-11 hours per week driving to and from pest control sites. As a group, they spend more time than other AFMS groups performing vertebrate control tasks. On the other hand, 66 percent of first-enlistment respondents do not perform airfield bird control activities. While five categories for MAJCOM certification seem to be held in common by most members of this AFSC, regardless of geographical location or MAJCOM, substantial percentages of first-termers indicate certification in three: (1) Industrial, Institutional, Structural, and Health-Related; (2) Ornamental and Turf; and (3) Public Health Pest Control.

Tables 14 and 15 present equipment items and pesticides commonly used by first-term personnel (30 percent or more using). While most of these pesticides are also used by substantial percentages of other experience level groups, some less commonly used pesticides included in the background portion of the job inventory are only used by members having higher experience levels. These include pesticides such as Bromacil, Zinc Phosphide, and Glyphosate. The application of these pesticides by more senior personnel may indicate they are included in a group identified as "Restricted Use Pesticides" that can be applied only by, or under the direct supervision of, a certified pest manager. The standard safety equipment used in pesticide applications or mixing is utilized by substantial percentages of all experience level groups. Some equipment items are not used by either TAFMS groups, such as leaching pits, self-contained breathing apparatus, snake guards, and spark-proof lighting for fumigation operations. While Table 14 indicates 81 percent of first-enlistment personnel use ultra low volume (ULV) generators, 64 percent indicate they have never performed ULV calibration for droplet-size determination.

#### Specialty Training Standard (STS)

The current STS for the AFSC 566X0 Pest Management specialty is dated January 1983, with Change 1 effective July 1984 and Change 2 in October 1984. The criteria described in AFR 8-13/ATC Supplement 1 paragraph 3.(4) which states, "Include those tasks or knowledge performed or required by 20 percent or more of the personnel in the AFS", was used as a guideline in the review of the training document. Thus, where 20 percent or more members are performing a task, this task should be matched to an appropriate STS element to be trained through OJT. Tasks with less than 20 percent members performing may be included with proper justification, such as high task difficulty, safety factors, or high training emphasis ratings. Overall, the STS depicts the homogeneity of the jobs described in the career ladder structure of this AFSC, thereby supporting AFR 39-1 specialty descriptions for 3-, 5-, and 7-skill level members. Tasks matched to STS elements invariably show an increase in percent members performing as skill level increases, demonstrating the expanding scope of the primarily technical orientation of jobs in this career ladder.

TABLE 14

EQUIPMENT USED BY 30 PERCENT  
OR MORE FIRST-ENLISTMENT PERSONNEL

| <u>EQUIPMENT</u>                     | <u>PERCENT USING</u> |
|--------------------------------------|----------------------|
| LADDERS                              | 89                   |
| SNAP TRAPS                           | 88                   |
| LIVE ANIMAL TRAPS                    | 87                   |
| AEROSOL BOMBS                        | 85                   |
| COMPRESSED AIR SPRAYERS              | 85                   |
| MIXING EQUIPMENT                     | 82                   |
| ULTRA LOW VOLUME (ULV) GENERATORS    | 81                   |
| GLUE TRAPS                           | 71                   |
| HYDRAULIC SPRAYERS (TRAILER MOUNTED) | 71                   |
| BULB DUSTERS                         | 67                   |
| CHEMICAL SPILL EQUIPMENT             | 64                   |
| SPECIMEN DISPLAY CASES               | 60                   |
| MICROSCOPES                          | 58                   |
| ROTO-HAMMERS                         | 58                   |
| SUBSLAB INJECTORS                    | 58                   |
| GRANULE SPREADERS                    | 57                   |
| HYDRAULIC SPRAYERS (FRAME MOUNTED)   | 48                   |
| GOPHER TRAPS                         | 47                   |
| HAND DUSTERS (EXCEPT BULB TYPE)      | 45                   |
| BUFFALO TURBINES                     | 39                   |
| VACUUM CLEANERS                      | 37                   |
| ELECTRIC MISTERS                     | 35                   |
| STEEL TRAPS                          | 31                   |
| HAND PLUNGER DUSTERS                 | 30                   |
| LAWN MOWERS                          | 30                   |

TABLE 15  
PESTICIDES USED BY 30 PERCENT  
OR BETTER FIRST-ENLISTMENT PERSONNEL

| <u>PESTICIDE</u>   | <u>PERCENT USING</u> |
|--------------------|----------------------|
| DIAZINON           | 98                   |
| DURSBAN            | 96                   |
| MALATHION          | 93                   |
| BAYGON             | 90                   |
| PYRETHRUM          | 88                   |
| D-PHENOTHRIN       | 85                   |
| FICAM              | 84                   |
| SEVIN              | 76                   |
| DIAZINON DUST      | 69                   |
| CHLORDANE          | 65                   |
| 2-4-D              | 59                   |
| WARFARIN           | 59                   |
| ALUMINUM PHOSPHIDE | 43                   |
| AVITROL            | 41                   |
| CALCIUM CYANIDE    | 39                   |
| DIAZINON GRANULES  | 31                   |
| NAPHTHALENE        | 31                   |
| RESMETHRIN         | 30                   |
| ROOST-NO-MORE      | 30                   |

While the majority of STS elements are supported by survey data, several areas are questionable. Some paragraphs and subparagraphs show a lack of consistency in the level of specificity. For example, subparagraphs 6D-6F, and 6J-6P (a total of 10 items) are matched to the same 3 tasks. Although these matched tasks show substantial percent members performing data to support the STS items, they also suggest these areas may need to be condensed due to repetitiveness. STS paragraph 10 also exhibits this type of repetition. The same tasks are matched to each element in this paragraph. In addition, all tasks are performed by predominantly 7-skill level members assuming general contingency responsibilities.

On the other hand, STS line items 7B(1) and 7B(2), which are generally supported by survey data, include many matched tasks with less than 20 percent members performing. Twenty-nine tasks are matched to line item (7B(1)). Twelve of these tasks show percentages below the cut-off point of 20 percent members performing. This paragraph deals with pest management equipment as does paragraph 7C. While paragraph 7C categorizes pest management equipment, the preceeding paragraphs (7B(1) and 7B(2)) are very generalized. If the paragraphs in question are written more specifically, survey data may be better utilized.

In addition, subparagraphs 7C(5) and 7C(7) and related tasks show very low percent members performing all but one general task matched to the element (see Table 16). The most appropriate directly related tasks matched to these STS elements do not meet percent members performing criteria for retention in the STS.

The same broad inconsistencies are found in paragraph 9F having 56 tasks matched to the single STS item. Here again, the paragraphs may be made more specific by outlining the various types of integrated pest management methods based upon the pest or the most representative pest groups, in accordance with AFR 91-21, pages 8-11. The aforementioned STS areas, although most are supported by survey data, should be reviewed by training personnel to enhance the overall effectiveness of the training document.

In the analysis of tasks not referenced to the STS, Table 17 indicates that of the 18 tasks rated average and above in training emphasis, 10 are performed by substantial percentages of Pest Management personnel. These tasks range in difficulty level from very easy to perform, such as "transport hand equipment", to very difficult to learn to do, such as "conduct OJT". Here again, more fumigation functions appear (as a grouping of tasks) high on the list of nonreferenced tasks listed in descending order of TE, discussed in the introductory portion of the TRAINING ANALYSIS section. The majority of the remaining tasks not referenced to the STS and performed by at least 20 percent of the career ladder include those of a "purely" supervisory, training, or administrative nature. Also, groups of tasks pertaining to military quarantine operations are not matched to any portion of the STS. These areas, as well as those specific STS paragraphs mentioned above, should be reviewed by career ladder managers for possible additions or deletions to the STS.

TABLE 16  
EXAMPLES OF STS ELEMENTS REQUIRING REVIEW

| TASK  |  | PERCENT MEMBERS PERFORMING |       |
|-------|--|----------------------------|-------|
|       |  | 1ST ENL                    | 56650 |
| 7C(5) | OPERATE MANUAL FRIGHTENING DEVICES                             |                            | 56670 |
| J363  | SCARE BIRDS WITH 12-GAUGE SHOTGUNS AND SCARE CARTRIDGES        | 9                          | 9     |
| J354  | OPERATE GAS CANNONS  | 7                          | 7     |
| J362  | SCARE BIRDS WITH M-1 FLARE PISTOLS OR M-74 SIMULATOR AIRBURSTS | 4                          | 6     |
| B64   | DIRECT UTILIZATION OF EQUIPMENT                                | 22                         | 38    |
| 7C(7) | OPERATE MANUAL FUMIGATION EQUIPMENT                            |                            |       |
| L395  | TEST FUMIGATED AREAS FOR SAFE REENTRY                          | 7                          | 11    |
| L396  | TEST GAS CONCENTRATIONS DURING FUMIGATION                      | 7                          | 11    |
| L379  | AERATE FUMIGATED AREAS   | 5                          | 9     |
| L380  | CLEAR FUMIGATED RAIL CARS                                      | 0                          | 1     |
| B64   | DIRECT UTILIZATION OF EQUIPMENT                                | 22                         | 38    |

7F MAKE ENTRIES IN EQUIPMENT INSPECTION GUIDE AND TROUBLE REPORT

(NO TASKS MATCHED TO THIS ITEM)

TABLE 17

EXAMPLES OF TASKS NOT REFERENCED TO AFSC 566X0 STS

| TASKS   | TNG<br>EMP* | PERCENT MEMBERS PERFORMING |       |       | TASK<br>DIF** |
|---|-------------|----------------------------|-------|-------|---------------|
|   |             | 1ST<br>ENL                 | 56650 | 56670 |               |
| F210 TRANSPORT PESTICIDES   | 6.39        | 88                         | 91    | 86    | 3.01          |
| F209 TRANSPORT HAND EQUIPMENT   | 5.63        | 84                         | 87    | 86    | 2.33          |
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES   | 5.39        | 91                         | 92    | 87    | 2.17          |
| I332 CLEAN UP AFTER INSECT CONTROL OPERATIONS   | 4.84        | 64                         | 63    | 63    | 3.87          |
| J347 DISPOSE OF DEAD ANIMALS  | 4.19        | 90                         | 84    | 74    | 2.33          |
| L392 PREPARE STACKS FOR FUMIGATION  | 4.12        | 9                          | 10    | 11    | 5.92          |
| C100 INSPECT EQUIPMENT STORAGE AREAS  | 4.07        | 34                         | 50    | 82    | 4.41          |
| L397 TURN OFF IGNITION SOURCES AND ELECTRICAL POWER SOURCES<br>PRIOR TO FUMIGATION PROCEDURES | 3.98        | 7                          | 10    | 5     | 4.44          |
| I311 APPLY LIQUID INSECTICIDES BY BRUSHING  | 3.77        | 15                         | 16    | 16    | 4.17          |
| N423 INSPECT CARGO FOR PESTS  | 3.77        | 8                          | 10    | 19    | 5.23          |
| L394 SEAL BUILDING DOORS, WINDOWS, OR VENTS USING GAS TIGHT<br>TAPE                           | 3.74        | 2                          | 5     | 2     | 5.35          |
| N424 INSPECT CARGO PACKING MATERIAL FOR PESTS   | 3.65        | 3                          | 5     | 10    | 5.05          |
| L389 PLACE OR REMOVE TARPS FROM BUILDINGS, STACKS, OR<br>VEGETATED AREAS                      | 3.58        | 11                         | 14    | 13    | 5.06          |
| D111 CONDUCT OJT  | 3.56        | 19                         | 40    | 73    | 6.17          |
| L393 REMOVE SEALS FROM BUILDING DOORS, WINDOWS, OR VENTS                                      | 3.56        | 1                          | 4     | 5     | 4.57          |
| N432 PREPARE AIRCRAFT FOR TREATMENTS  | 3.47        | 3                          | 6     | 11    | 5.60          |
| G238 COORDINATE WITH OTHER ORGANIZATIONS ON IDENTIFICATION<br>OF PESTS                        | 3.42        | 24                         | 35    | 63    | 4.98          |
| D116 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION  | 3.33        | 6                          | 25    | 63    | 5.07          |

\* Training Emphasis Average Rating = 3.30, with SD of 1.61

\*\* Task Difficulty Average Rating = 5.00, with SD of 1.00

### Plan of Instruction (POI)

This 6-week, 2-day course is intended to provide the basic skills and knowledges required for controlling a variety of pests, to include animal and vegetation groups, collecting and identifying live or mounted specimens, determining pest control measures, operating and maintaining pesticide dispersal equipment, performing BASH suppression techniques, and utilizing pesticide formulations. Completion of this initial skills course is mandatory for award of the 3-skill level. Ninety-one percent of first-enlistment respondents indicate they have completed this course. As AFSC 566X0 personnel progress in experience, supplemental courses are available to train them on more advanced pest management operations. These courses are also available for civilian member counterparts to this AFSC. A complete list of these courses is presented in the INTRODUCTION of this report.

A similar method to that described in the analysis of the STS, using tasks matched by personnel from Sheppard Technical Training Center, was also used in the evaluation of POI for course J3ABR56630, dated 1 February 1984, with Change 1 dated 30 January 1985. As stipulated in ATCR 52-22, data pertaining to TE and TD ratings, as well as percent members performing information for first-job (1-24 months TAFMS) assignment and first-enlistment (1-48 months TAFMS) personnel, are the basic considerations in designing ABR training programs. Hence, for tasks having a high probability of performance (better than 30 percent members performing), ABR course training should be considered. Of course, this decision must be tempered with the difficulty level of the task and the amount of training emphasis recommended by subject-matter experts in the field.

Many objectives within three of the four POI blocks are not supported by survey data. As displayed in Table 18, the basis for nonsupport of these objectives is primarily attributed to less than 30 percent members performing matched tasks. Block I, which deals with instruction on general standards, is well supported by survey data. However, the remaining blocks of instruction concerning Medical Pest Management (Block II), Industrial and Institutional Pest Management (Block III), and Vegetation Management (Block IV) present several problem areas that require review by career ladder training personnel.

For example, in reference to Block II 3A in Table 18, the matched task indicates less than 30 percent performing in the target population, although both task factors are high. This unit of instruction accounts for 8 training hours. In addition, the STS reference to this objective indicates technical school training to the 2b level (partially proficient in performance and can determine the procedures to accomplish the task). Adherence to the guidelines in ATCR 52-22 (Course Training Decision Table) suggests training of this task by OJT, based on low probability of performance, unless otherwise justified.

Many objectives in other blocks of instruction show this same pattern. Other questionable POI areas are those having multiple tasks matched to the objective, and only one general task, such as a safety task, meeting percent members performing criteria. Block III 2C, as presented in Table 19, provides an example of this occurrence. Tasks specifically related to fumigation operations not only show low percentages of first-termers performing, but also



TABLE 18

POI BLOCKS REFLECTING LOW 566X0 FIRST-ENLISTMENT TASK PERFORMANCE  
(LESS THAN 30 PERCENT PERFORMING)

| POI BLOCK/UNIT/TIME AND MATCHED TASKS  | TNG<br>EMP* | TSK<br>DIFF** | PERCENT MEMBERS<br>PERFORMING |                    |
|--|-------------|---------------|-------------------------------|--------------------|
|  |             |               | 1ST JOB<br>(N=115)            | 1ST ENL<br>(N=210) |
| II 3A GIVEN REFERENCES AND FIVE DISEASE VECTORIZING FLEA SPECI-<br>MENS, IDENTIFY EACH SPECIMEN (8 HOURS)  |             |               |                               |                    |
| G244 IDENTIFY ECTOPARASITES  | 4.58        | 5.78          | 18                            | 21                 |
| IV 7A GIVEN REFERENCES AND FIVE ORNAMENTAL PEST SPECIMENS,<br>IDENTIFY EACH SPECIMEN. THREE MUST BE CORRECT (2 HOURS)  |             |               |                               |                    |
| G246 IDENTIFY HORTICULTURAL PESTS  | 4.14        | 5.67          | 15                            | 18                 |
| IV 9C GIVEN REFERENCES AND THREE HYPOTHETICAL PROBLEMS CON-<br>CERNING CONTROL OF ORNAMENTAL AND TURF PLANT DISEASES, SELECT<br>THE APPROPRIATE INTEGRATED PEST MANAGEMENT PROCEDURE FOR CON-<br>TROL OF EACH PROBLEM (1 HOUR) |             |               |                               |                    |
| F176 DETERMINE FUNGICIDE APPLICATION METHODS   | 3.19        | 6.11          | 11                            | 12                 |
| K371 APPLY LIQUID FUNGICIDE SUSPENSIONS TO TURF  | 2.84        | 4.99          | 14                            | 13                 |
| K368 APPLY FUNGICIDE EMULSIONS TO ORNAMENTALS  | 2.74        | 5.19          | 7                             | 8                  |

TABLE 19

## EXAMPLES OF OTHER POI AREAS REQUIRING REVIEW

| POI BLOCK/UNIT/TIME AND MATCHED TASKS  |  | TNG EMP* | TSK DIFF** | PERCENT MEMBERS<br>PERFORMING |         |
|--|--|----------|------------|-------------------------------|---------|
|  |  |          |            | 1ST JOB                       | 1ST ENL |
| IIII 2C GIVEN REFERENCES, SAFETY EQUIPMENT, FUMIGATION DETEC-<br>TION EQUIPMENT, AND A DESIGNATED AREA, IMPLEMENT THE PROPER<br>INTEGRATED PEST MANAGEMENT PROCEDURES FOR CONTROL OF STORED<br>FOOD PESTS WITH INSTRUCTOR ASSISTANCE (6 HOURS) |  |          |            |                               |         |
| F190   | PLACE OR REMOVE WARNING SIGNS  | 4.56     | 2.91       | 24                            | 37      |
| L395   | TEST FUMIGATED AREAS FOR SAFE REENTRY  | 4.42     | 6.45       | 5                             | 7       |
| L396   | TEST GAS CONCENTRATIONS DURING FUMIGATION  | 4.33     | 6.17       | 4                             | 7       |
| L381   | DISPOSE OF SOLID FUMIGANT RESIDUES   | 4.19     | 6.10       | 1                             | 2       |
| L383   | FUMIGATE AREAS BY PLACING SOLID FUMIGANTS  | 4.12     | 6.57       | 16                            | 21      |
| L392   | PREPARE STACKS FOR FUMIGATION  | 4.12     | 5.92       | 7                             | 9       |
| L397   | TURN OFF IGNITION SOURCES AND ELECTRICAL POWER SOURCES<br>PRIOR TO FUMIGATION PROCEDURES | 3.98     | 4.44       | 4                             | 7       |
| L379   | AERATE FUMIGATED AREAS   | 3.95     | 5.44       | 3                             | 5       |
| L394   | SEAL BUILDING DOORS, WINDOWS, OR VENTS USING GAS TIGHT<br>TAPE                           | 3.74     | 5.35       | 2                             | 2       |
| L389   | PLACE OR REMOVE TARPS FROM BUILDINGS, STACKS, OR<br>VEGETATED AREAS                      | 3.58     | 5.06       | 4                             | 11      |
| L393   | REMOVE SEALS FROM BUILDING DOORS, WINDOWS, OR VENTS                                      | 3.56     | 4.57       | 0                             | 1       |
| L380   | CLEAR FUMIGATED RAIL CARS  | 3.47     | 6.22       | 0                             | 0       |
| L382   | FUMIGATE AREAS BY PLACING DUST FUMIGANTS   | 3.40     | 6.36       | 4                             | 8       |
| L388   | GUARD FUMIGATED AREAS  | 3.37     | 4.53       | 1                             | 2       |

\* Training Emphasis Average Rating = 3.30, with SD of 1.61

\*\* Task Difficulty Average Rating = 5.00, with SD of 1.00

show low performance across skill-level groups, as discussed in the analysis of the STS (paragraphs 7C(7) and 9F). This suggests that, while these tasks do require training, perhaps centralized training is not the most appropriate place to furnish this training.

Tasks not referenced to any section of the POI are extensive. However, the majority of the tasks not referenced are performed by fewer than 30 percent first-job or first-enlistment personnel. Ninety-four nonreferenced tasks are rated average to high in TE; of these, 39 are performed by substantial percentages of first-termers. Groupings of these tasks identify areas such as equipment maintenance, administrative, and planning functions (see Table 20). Training personnel are encouraged to review those tasks not referenced to POI 56630 to determine whether it is most appropriate to provide coverage in the initial skills course or in some other form of training.

### Training Analysis Summary

The greatest percentage of first-enlistment personnel perform a range of tasks, although somewhat limited, descriptive of the job identified for Senior Pest Management Personnel. This parallels the distribution of the career ladder as a whole. Unlike their more experienced counterparts who indicate MAJCOM certification in five representative areas of pest management, the majority of first-termers are certified in: (1) Industrial, Institutional, Structural and Health-Related, (2) Ornamental and Turf, and (3) Public Health Pest Control.

Overall, STS paragraphs and subparagraphs are well supported by survey data, depicting the broadening scope of these technically-oriented jobs with career ladder progression. Several areas of the STS are inconsistent or repetitive. Review of these areas by career ladder managers may result in some revisions and a more effective document. On the other hand, the POI requires extensive review of Blocks II-IV and tasks not referenced. While substantial percentages of first-enlistment personnel are certified in Public Health Pest Control, the POI block under which related subject matter is taught (Block II; Medical Pest Management) reveals many task performance objectives which are not supported by survey data. This type of in-depth review of the data may result in revisions, such as streamlining, redirection of emphasis in other areas, or improvements in cost-effectiveness for the basic course, all of which may improve the quality of the graduate.

### JOB SATISFACTION

Jobs may change over time for many reasons, such as mergers, splits, or shreds within or between AFSCs, thereby affecting the jobs of the individuals supporting these specialties. The results of job satisfaction responses of the current survey sample were analyzed via several comparisons: (1) across specialty job groups identified in the Career Ladder Structure section of this report; (2) between TAFMS groups of a comparative sample of personnel from

TABLE 20

TASKS WITH HIGH TRAINING EMPHASIS NOT REFERENCED TO POI 3ABR56630  
(PERCENT MEMBERS PERFORMING)

| TASK  | TNG EMP* | TAFMS MEMBERS |          | TASK<br>DIFF** |
|---|----------|---------------|----------|----------------|
|   |          | 1-24 MOS      | 1-48 MOS |                |
| F210 TRANSPORT PESTICIDES   | 6.39     | 80            | 88       | 3.01           |
| 0484 PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT   | 6.30     | 70            | 74       | 4.02           |
| 0490 PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE  |          |               |          |                |
| 0491 REMOVE PEST MANAGEMENT EQUIPMENT FROM WINTER STORAGE   | 5.79     | 31            | 42       | 4.64           |
| F209 TRANSPORT HAND EQUIPMENT   | 5.63     | 78            | 84       | 2.33           |
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES   | 5.39     | 88            | 91       | 2.27           |
| 0461 PERFORM OPERATOR MAINTENANCE ON SKID-MOUNTED HYDRAULIC SPRAYERS  | 5.26     | 10            | 13       | 5.38           |
| P498 DRIVE VEHICLES DURING PESTICIDE APPLICATIONS   | 5.23     | 79            | 80       | 3.91           |
| F177 DETERMINE HERBICIDE APPLICATION METHODS  | 5.12     | 52            | 58       | 6.07           |
| 0460 PERFORM OPERATOR MAINTENANCE ON POWERED HAND EQUIPMENT   | 5.12     | 24            | 31       | 5.14           |
| 0487 PREOPERATIONALLY CHECK SUBSLAB INJECTION UNITS   | 5.07     | 24            | 33       | 4.18           |
| 0485 PREOPERATIONALLY CHECK SKID-MOUNTED HYDRAULIC SPRAYERS   | 5.05     | 15            | 16       | 4.40           |
| 0483 PREOPERATIONALLY CHECK POWERED HAND EQUIPMENT  | 5.00     | 33            | 39       | 4.21           |
| E148 MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLE)) | 4.91     | 51            | 56       | 2.87           |

\* Training Emphasis Average Rating = 3.30, with SD of 1.61

\*\* Task Difficulty Average Rating = 5.00, with SD of 1.00

other Direct Support specialties surveyed in 1985 (Electrician (AFSC 542X0) and Combat Arms Training and Maintenance (AFSC 753X0)); and (3) between TAFMS groups of the previous survey. A review of job satisfaction indicators can aid training and utilization personnel in determining trends or identifying perceptions of work environments rendered by incumbents, as well as their attitudes in areas such as training, use of talents, and reenlistment intentions. Write-in comments were also reviewed to identify any areas of concern expressed by career ladder members. While 51 respondents used the write-in feature primarily to furnish information on additional pest management courses completed, only one comment imparted negative utilization sentiments.

Members performing the two major jobs operating within this career ladder (Senior Pest Management Personnel and Junior Pest Management Personnel) indicate high job satisfaction levels in all areas. As presented in Table 21, it may be concluded that there is a positive correspondence between experience level and job satisfaction level. As incumbents gain more experience in the career field and obtain additional skills and knowledge, such as through certification and advanced courses, the opportunity to expand the scope of their job by functioning as "fully-qualified" pest managers may account for the increased levels of job satisfaction indicated by the more senior members of this career ladder. Reenlistment intentions are comparable for members of both jobs.

In the comparison of job satisfaction data with a comparative sample of the Direct Support AFSCs surveyed in 1985, first-enlistment Pest Management respondents indicate lower levels on all indices, with the exception of perceived utilization of training (see Table 22). Job interest and perceived utilization of talents increases after the first enlistment and is somewhat higher than that of the comparative sample by the time career status is reached. On the other hand, somewhat smaller percentages of Pest Management personnel across all enlistment groups indicate positive intentions to reenlist.

Table 23 provides a comparison of job satisfaction information between experience groups in the current sample and those of the previous survey. Here again, job interest is somewhat lower for first-termers of the current sample, but shows an increase after the first enlistment. Generally, job satisfaction indicators are higher in all areas for members in the current sample, although no problem areas were identified in the last survey.

## ISSUES AND SURVEY CONSIDERATIONS

### Geographical Differences

The largest percentage of career ladder personnel perform pest management functions within the Southwest region. As Table 24 indicates, the career ladder as a whole, despite geographical region assigned, spends the majority of their job time primarily performing three duties: Managing and Handling Pest

TABLE 21

JOB SATISFACTION INFORMATION FOR PEST MANAGEMENT SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING\*)

|  | TOTAL<br>SAMPLE<br>(N=452) | JUNIOR PEST<br>MANAGEMENT<br>PERSONNEL<br>(GRP024, N=39) | SENIOR PEST<br>MANAGEMENT<br>PERSONNEL<br>(GRP026, N=382) |
|--|----------------------------|--|---|
| <u>EXPRESSED JOB INTEREST:</u>           |                            |  |   |
| INTERESTING                              | 76%                        | 69%  | 77%   |
| SO-SO                                    | 14%                        | 15%  | 15%   |
| DULL                                     | 9%                         | 15%  | 8%  |
| <u>PERCEIVED UTILIZATION OF TALENTS:</u> |                            |  |   |
| FAIRLY WELL TO PERFECTLY                 | 79%                        | 72%  | 80%   |
| LITTLE OR NOT AT ALL                     | 20%                        | 26%  | 19%   |
| <u>PERCEIVED USE OF TRAINING:</u>        |                            |  |   |
| FAIRLY WELL TO PERFECTLY                 | 90%                        | 87%  | 91%   |
| LITTLE OR NOT AT ALL                     | 10%                        | 13%  | 9%  |
| <u>REENLISTMENT INTENTIONS:</u>          |                            |  |   |
| YES, OR PROBABLY YES                     | 51%                        | 51%  | 51%   |
| NO, OR PROBABLY NO                       | 24%                        | 46%  | 23%   |

\* Columns may not add to 100 percent due to nonresponse or rounding

TABLE 22

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS  
(PERCENT MEMBERS RESPONDING\*)

|                                   | MONTHS TAFMS     |                             |                 |                           |                           |
|-----------------------------------|------------------|-----------------------------|-----------------|---------------------------|---------------------------|
|                                   | 1-48             | 49-96                       |                 | 97+                       |                           |
|                                   | 566X0<br>(N=210) | COMP<br>SAMPLE**<br>(N=714) | 566X0<br>(N=50) | COMP<br>SAMPLE<br>(N=348) | 566X0<br>(N=98)           |
|                                   |                  |                             |                 |                           | COMP<br>SAMPLE<br>(N=532) |
| EXPRESSED JOB INTEREST:           |                  |                             |                 |                           |                           |
| INTERESTING                       | 63%              | 81%                         | 80%             | 80%                       | 83%                       |
| SO-SO                             | 21%              | 11%                         | 16%             | 11%                       | 10%                       |
| DULL                              | 15%              | 6%                          | 4%              | 9%                        | 7%                        |
| PERCEIVED UTILIZATION OF TALENTS: |                  |                             |                 |                           |                           |
| FAIRLY WELL TO PERFECTLY          | 69%              | 84%                         | 84%             | 84%                       | 86%                       |
| LITTLE OR NOT AT ALL              | 31%              | 16%                         | 16%             | 16%                       | 13%                       |
| PERCEIVED USE OF TRAINING:        |                  |                             |                 |                           |                           |
| FAIRLY WELL TO PERFECTLY          | 89%              | 88%                         | 92%             | 83%                       | 82%                       |
| LITTLE OR NOT AT ALL              | 11%              | 12%                         | 8%              | 17%                       | 18%                       |
| REENLISTMENT INTENTIONS:          |                  |                             |                 |                           |                           |
| YES, OR PROBABLY YES              | 57%              | 66%                         | 70%             | 81%                       | 76%                       |
| NO, OR PROBABLY NO                | 41%              | 31%                         | 30%             | 18%                       | 5%                        |
|                                   |                  |                             |                 |                           | 79%<br>4%                 |

\* Columns may not add up to 100 percent due to nonresponse or rounding

\*\* Includes direct support AFSCs 542X0 and 753X0 surveyed in 1985

TABLE 23

COMPARISON OF JOB SATISFACTION DATA  
BETWEEN 1981 AND CURRENT SURVEY  
(PERCENT MEMBERS RESPONDING\*)

|  | MONTHS TAFMS                 |                               |                             |                              |                             |                              |
|--|------------------------------|-------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|
|  | 1-48                         |                               | 49-96                       |                              | 97+                         |                              |
|  | CURRENT<br>SAMPLE<br>(N=210) | PREVIOUS<br>SURVEY<br>(N=124) | CURRENT<br>SAMPLE<br>(N=50) | PREVIOUS<br>SURVEY<br>(N=43) | CURRENT<br>SAMPLE<br>(N=98) | PREVIOUS<br>SURVEY<br>(N=75) |
| <u>EXPRESSED JOB INTEREST:</u>                   |                              |                               |                             |                              |                             |                              |
| INTERESTING                                      | 63%                          | 66%                           | 80%                         | 75%                          | 83%                         | 81%                          |
| SO-SO  | 21%                          | 14%                           | 16%                         | 14%                          | 10%                         | 9%                           |
| DULL   | 15%                          | 20%                           | 4%                          | 9%                           | 7%                          | 7%                           |
| <u>PERCEIVED UTILIZATION OF TALENTS:</u>         |                              |                               |                             |                              |                             |                              |
| FAIRLY WELL TO PERFECTLY<br>LITTLE OR NOT AT ALL | 69%<br>31%                   | 65%<br>35%                    | 84%<br>16%                  | 68%<br>30%                   | 86%<br>13%                  | 80%<br>20%                   |
| <u>PERCEIVED USE OF TRAINING:</u>                |                              |                               |                             |                              |                             |                              |
| FAIRLY WELL TO PERFECTLY<br>LITTLE OR NOT AT ALL | 89%<br>11%                   | 76%<br>23%                    | 92%<br>8%                   | 77%<br>21%                   | 82%<br>18%                  | 84%<br>15%                   |
| <u>REENLISTMENT INTENTIONS:</u>                  |                              |                               |                             |                              |                             |                              |
| YES, OR PROBABLY YES<br>NO, OR PROBABLY NO       | 57%<br>41%                   | 48%<br>51%                    | 70%<br>30%                  | 65%<br>30%                   | 76%<br>5%                   | 68%<br>29%                   |

\* Columns may not add to 100 percent due to nonresponse or rounding



TABLE 24

## AVERAGE PERCENT TIME SPENT PERFORMING DUTIES ACROSS GEOGRAPHICAL REGIONS

| DUTY TITLE  | ALASKAN THEATER (N=10) |    | CONUS, NORTH CENTRAL (N=46) |    | CONUS, NORTH EAST (N=45) |    | CONUS, NORTH WEST (N=56) |    | CONUS, SOUTH CENTRAL (N=51) |    | CONUS, SOUTH EAST (N=72) |    | CONUS, SOUTH WEST (N=96) |    | EUROPEAN THEATER (N=30) |    | PACIFIC THEATER (N=40) |    |
|---|------------------------|----|-----------------------------|----|--------------------------|----|--------------------------|----|-----------------------------|----|--------------------------|----|--------------------------|----|-------------------------|----|------------------------|----|
|   |                        |    |                             |    |                          |    |                          |    |                             |    |                          |    |                          |    |                         |    |                        |    |
| A ORGANIZING AND PLANNING                                     | 10                     | 10 | 9                           | 10 | 10                       | 10 | 10                       | 10 | 10                          | 8  | 10                       | 10 | 10                       | 15 | 10                      | 10 | 10                     | 10 |
| B DIRECTING AND IMPLEMENTING                                  | 7                      | 4  | 6                           | 4  | 4                        | 4  | 4                        | 4  | 4                           | 4  | 4                        | 4  | 4                        | 6  | 4                       | 4  | 4                      | 4  |
| C INSPECTING AND EVALUATING                                   | 4                      | 4  | 5                           | 3  | 3                        | 3  | 3                        | 3  | 3                           | 3  | 3                        | 3  | 3                        | 6  | 4                       | 4  | 4                      | 4  |
| D TRAINING  | 1                      | 2  | 1                           | 2  | 2                        | 2  | 2                        | 2  | 2                           | 2  | 2                        | 2  | 2                        | 2  | 2                       | 2  | 2                      | 2  |
| E PERFORMING ADMINISTRATIVE FUNCTIONS                         | 8                      | 6  | 7                           | 6  | 6                        | 6  | 6                        | 6  | 6                           | 6  | 6                        | 6  | 6                        | 9  | 7                       | 7  | 7                      | 7  |
| F MANAGING AND HANDLING PEST CONTROL MATERIALS                | 19                     | 18 | 16                          | 18 | 18                       | 18 | 18                       | 18 | 17                          | 16 | 16                       | 19 | 19                       | 18 | 16                      | 16 | 16                     | 16 |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS                     | 13                     | 15 | 12                          | 14 | 12                       | 14 | 14                       | 14 | 14                          | 14 | 14                       | 14 | 14                       | 13 | 12                      | 12 | 12                     | 12 |
| H PERFORMING TERMITE CONTROL FUNCTIONS                        | 2                      | 4  | 3                           | 3  | 3                        | 3  | 3                        | 3  | 6                           | 6  | 6                        | 6  | 6                        | *  | 9                       | 9  | 9                      | 9  |
| I PERFORMING INSECT CONTROL FUNCTIONS (EXCEPT TERMITES)       | 8                      | 10 | 9                           | 10 | 10                       | 10 | 10                       | 10 | 8                           | 9  | 9                        | 9  | 9                        | 7  | 8                       | 8  | 8                      | 8  |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS                     | 5                      | 5  | 6                           | 6  | 6                        | 6  | 6                        | 6  | 4                           | 5  | 5                        | 5  | 5                        | 5  | 5                       | 5  | 5                      | 5  |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL                 | *                      | *  | *                           | *  | *                        | *  | *                        | *  | *                           | *  | *                        | *  | *                        | *  | *                       | *  | *                      | *  |
| L FUMIGATING FOR PEST CONTROL                                 | 0                      | *  | 1                           | *  | *                        | *  | *                        | *  | 1                           | 1  | 1                        | 1  | 1                        | 1  | 1                       | 1  | 1                      | 1  |
| M PERFORMING VEGETATION CONTROL FUNCTIONS                     | 1                      | 2  | 2                           | 3  | 2                        | 3  | 3                        | 2  | 2                           | 2  | 2                        | 2  | 2                        | 1  | 1                       | 1  | 1                      | 1  |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS AND PEST CONTROL | *                      | *  | 1                           | *  | *                        | *  | *                        | *  | 1                           | *  | *                        | *  | *                        | *  | *                       | *  | *                      | *  |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND FACILITIES        | 19                     | 17 | 17                          | 18 | 18                       | 18 | 18                       | 15 | 15                          | 16 | 16                       | 14 | 14                       | 15 | 13                      | 13 | 13                     | 13 |
| P PERFORMING GENERAL FUNCTIONS                                | 3                      | 3  | 3                           | 3  | 3                        | 3  | 3                        | 3  | 3                           | 4  | 4                        | 2  | 2                        | 2  | 2                       | 2  | 2                      | 2  |

\* Denotes less than 1 percent

Control Equipment and Facilities (Duty F), Surveying for Pest Control Requirements (Duty G), and Maintaining Pest Management Equipment and Facilities (Duty O). This is especially the case for the three divisions of the Northern CONUS regions. CONUS Southern divisions show more diversification and spend more time on termite control functions than members in the Northern tier. Personnel stationed in the Pacific theater spend a greater percentage of their job time performing fumigation operations than any other location. While members stationed across the various geographical regions may spend more time performing specific pest management activities based on mission and peculiarities of that region, overall, no substantial differences in task performance were noted. Generally, members perform the full range of tasks included in the job inventory.

#### MAJCOM Certification

Of the 452 members responding to the survey, 90 (20 percent) indicate they do not hold MAJCOM certification in any pest management category. A shift in the emphasis on certification to different categories since the last survey may be an indication of revisions to Pest Management regulating publications and directives. The category of Agricultural Pest Control, Animal, held by substantial percentages of the career ladder in 1981, is now held by only 10 percent of the survey sample (see Table 25). Two categories, Right-of-Way and Aquatic Pest Control, held by small percentages of the previous survey sample, are among the five most commonly held categories of certification currently required by MAJCOMs.

#### Bird Air Strike Hazard (BASH) Control

The control of flocks of wild bird pests in and around airfields presents a special pest control requirement for reducing the risk of BASH for Air Force personnel in low flying aircraft. Responses to background information indicate that 66 percent of first-enlistment personnel, 62 percent of 5-skill levels, and 47 percent of all 7-skill level members do not spend any amount of their job time performing airfield bird control activities. Of those members responding affirmatively, 23 percent of first-termers, 25 percent of 5-skill levels, and 42 percent of 7-skill level members spend 1-3 hours per week performing BASH activities. Also, several members indicated in the write-in section of the inventory that they monitor bird control contracts. The STS paragraph which specifically addresses bird control for airfields (9H), contains matched tasks representative of this activity. The majority of these tasks are performed by substantially larger percentages of 7-skill level members. The largest aggregates of 7-skill level members are assigned to bases in the Southwest and Southeast geographical regions. Hence, the conclusion may be drawn that BASH surveillance programs are more predominant in these regions. In fact, this conclusion coincides with the results of the last survey, which indicated that smaller percentages of respondents assigned to duty stations in the Northwestern United States performed those tasks which involved the surveillance and control of birds directly. Likewise, current

TABLE 25

CURRENT MAJCOM CERTIFICATION HELD BY 566X0 PERSONNEL  
(PERCENT RESPONDING)

| <u>CERTIFICATION CATEGORY</u>   | <u>TOTAL SAMPLE</u> |
|---|---------------------|
| AERIAL APPLICATION PEST CONTROL   | 3%                  |
| AGRICULTURAL PEST CONTROL, ANIMAL   | 10%                 |
| AGRICULTURAL PEST CONTROL, PLANT  | 17%                 |
| AQUATIC PEST CONTROL  | 41%                 |
| DEMONSTRATION AND RESEARCH PEST CONTROL                                   | 2%                  |
| FOREST PEST CONTROL   | 5%                  |
| INDUSTRIAL, INSTITUTIONAL, STRUCTURAL, AND HEALTH-RELATED<br>PEST CONTROL | 73%                 |
| ORNAMENTAL AND TURF PEST CONTROL  | 69%                 |
| PUBLIC HEALTH PEST CONTROL  | 66%                 |
| REGULATORY PEST CONTROL   | 8%                  |
| RIGHT-OF-WAY PEST CONTROL   | 43%                 |
| SEED TREATMENT PEST CONTROL   | 3%                  |
| NO CURRENT CERTIFICATION HELD   | 20%                 |

Note: Percentages do not add up to 100 because some members hold multiple certification

data show larger percentages of career ladder members located in these regions spend more time performing BASH tasks than their counterparts in the Northern divisions.

#### Write-In Comments

Respondents are encouraged to utilize blank pages at the end of each inventory booklet to write in additional information which they were unable to classify in given categories of the background section or tasks which were not included in the inventory. Also, they are given the opportunity to express their perceptions about problems in the career ladder. Of the 51 respondents to utilize the write-in feature, 22 (43 percent) furnished information centering around advanced pest management training. Common courses completed by substantial percentages of respondents and not included in the background section of the inventory included the following: (1) Pest Control Technology correspondence course from Purdue University; (2) BASH course offered by the Air Force; and (3) DOD Aerial Application Pest Control from Rickenbacher Air Force Station.

Other comments included tasks not included in the inventory. However, these tasks did not prove to be representative of a large number of individuals and may indicate the uniqueness of some members' jobs.

As stated earlier, only one write-in comment was negative. The respondent was dissatisfied with the limited scope of his/her job, in spite of holding certification in multiple MAJCOM categories.

#### IMPLICATIONS

One of the primary purposes for conducting this survey was to assess the impact or trends in the AFSC based on changes in Pest Management directives. These findings were gathered primarily in the review of MAJCOM certification. It is evident the emphasis has shifted since 1981, away from certification in the Agricultural Pest Control, Animal category, to include two other areas: Right-of-Way and Aquatic Pest Control, thus broadening the scope of responsibility for the qualified pest manager. Consequently, first-enlistment personnel are performing a wider range of core technical tasks, in comparison to their counterparts in the last survey. This may be partially attributed to the availability of advanced courses offered to pest management personnel as they progress in experience and service time.

Analysis of the current career ladder structure suggests there have been very few changes, overall, in the Pest Management career ladder since the previous survey in 1981. The major focus of the two primary jobs (Senior Pest Management Personnel and Junior Pest Management Personnel) operating within this career ladder is rooted in a technical orientation. Jobs show an increase in scope as incumbents gain experience and time in service. Three factors account for the differences between career ladder jobs: (1) number of

tasks performed, (2) time spent on those tasks, and (3) experience level. Hence, survey data support the current classification structure. Furthermore, although some minor differences in time spent on groupings of tasks exist between military and civilian members, on the whole, they perform the same jobs.

Evaluation of training documents supporting this classification structure, to include AFR 39-1 Specialty Descriptions, STS, and POI, reveals a training program that, overall, is working quite well. The generally high positive responses regarding utilization of training and other job satisfaction indices tend to support this conclusion. Still, some adjustments to the STS and POI, as addressed in the TRAINING ANALYSIS section of this report, require consideration by technical training personnel, subject-matter experts, and career ladder functional managers.

The most significant problem identified in the training system was in the AFSC 566X0 ABR course, where many objectives are not supported by survey data. Of particular notice is, that while substantial percentages of first-enlistment members are certified in Public Health, the POI block of instruction under which this training is covered (Block II), and which accounts for 44 hours of training time, reveals many task performance objectives not supported by survey data. The performance of fumigation operations is another major area with lack of support in the STS as well as the POI. Very few career ladder members across the various skill levels and experience groups perform fumigation tasks. In the case of the POI, substantial time and money savings may result by training only those tasks which at least meet training guideline criteria, tempering percent members performing and task factor ratings (refer to STS and POI computer printouts in TRAINING EXTRACT), with input from subject-matter experts.

APPENDIX A

REPRESENTATIVE TASKS FOR CAREER  
LADDER STRUCTURE GROUPS

TABLE I

GROUP ID NUMBER AND TITLE: 026, SENIOR PEST MANAGEMENT PERSONNEL CLUSTER  
 GROUP SIZE: 382 PERCENT OF SAMPLE: 85  
 AVERAGE PAYGRADE: E-4 PERCENT OF MILITARY MEMBERS: 79  
 AVERAGE TAFMS: 73 MONTHS PERCENT OF CIVILIAN MEMBERS: 21  
 AVERAGE TICF: 79 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| F179 DETERMINE RODENTICIDE APPLICATION METHODS                                    | 88                               |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS  | 79                               |
| F204 RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS                     | 79                               |
| F206 REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT PROCEDURES                     | 75                               |
| A22 COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING<br>OCCUPANTS          | 75                               |
| I334 EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS                           | 74                               |
| F184 INSPECT CONTAINERS AND CONTENTS FOR SERVICEABILITY AND<br>EXPIRATION DATE    | 73                               |
| G255 INSPECT BUILDING SITES FOR STRUCTURAL PESTS                                  | 73                               |
| J365 TRAP DOMESTIC RODENTS  | 70                               |
| G264 INSPECT HOUSING AREAS FOR DOMESTIC RODENT INFESTATION                        | 69                               |
| A26 COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING<br>(CE) SHOPS         | 69                               |
| C102 INSPECT PESTICIDE STORAGE AREAS  | 68                               |
| G261 INSPECT FOR FIELD RODENT INFESTATIONS  | 65                               |
| B61 DIRECT HANDLING, TRANSPORTING, OR STORING OF PESTICIDES                       | 64                               |
| 0463 PERFORM OPERATOR MAINTENANCE ON ULV GENERATORS                               | 58                               |
| A53 SCHEDULE PERIODIC INSECT INSPECTIONS OR SURVEYS, OTHER<br>THAN TERMITES       | 57                               |
| F188 MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES                               | 55                               |
| F173 DETERMINE BIRD CONTROL METHODS   | 55                               |
| A4 ADVISE APPROPRIATE AGENCIES ON INSECT CONTROL MEASURES,<br>OTHER THAN TERMITES | 55                               |
| E154 MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT)                    | 52                               |
| G224 CONDUCT SURVEYS FOR BIRD PESTS   | 50                               |
| B76 SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC<br>56630)                | 49                               |
| A8 ATTEND MEETINGS, CONFERENCES, OR WORKSHOPS                                     | 49                               |
| A45 PLAN WORK ASSIGNMENTS   | 47                               |
| 0441 OVERHAUL PESTICIDE PUMPS   | 45                               |
| D111 CONDUCT OJT  | 44                               |
| A50 REVIEW PEST CONTROL REPORTS   | 43                               |
| A3 ADVISE APPROPRIATE AGENCIES ON BIRD PROOFING MEASURES                          | 33                               |
| D123 EVALUATE OJT TRAINEES  | 33                               |

TABLE 1A

GROUP ID NUMBER AND TITLE: 068, PEST MANAGEMENT TECHNICIAN - SUPERVISORS  
 GROUP SIZE: 208 PERCENT OF SAMPLE: 46  
 AVERAGE PAYGRADE: E-4 PERCENT OF MILITARY MEMBERS: 73  
 AVERAGE TAFMS: 94 MONTHS PERCENT OF CIVILIAN MEMBERS: 27  
 AVERAGE TICF: 95 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| F178 DETERMINE INSECTICIDE APPLICATION METHODS  | 98                               |
| F185 INTERPRET PESTICIDE LABELS   | 96                               |
| F179 DETERMINE RODENTICIDE APPLICATION METHODS  | 96                               |
| F199 PREPARE INSECTICIDE EMULSIONS  | 94                               |
| 0446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS                            | 94                               |
| 0435 CLEAN HAND EQUIPMENT   | 93                               |
| F204 RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS                           | 91                               |
| G226 CONDUCT SURVEYS FOR DOMESTIC RODENTS   | 90                               |
| C102 INSPECT PESTICIDE STORAGE AREAS  | 86                               |
| C86 EVALUATE EXTENT OF PEST INFESTATIONS  | 83                               |
| A29 DETERMINE WORK PRIORITIES   | 82                               |
| B61 DIRECT HANDLING, TRANSPORTING, OR STORING OF PESTICIDES                             | 82                               |
| G250 IDENTIFY STORED PRODUCTS PESTS   | 80                               |
| C100 INSPECT EQUIPMENT STORAGE AREAS  | 77                               |
| A19 COORDINATE FUMIGATION, FOGGING, OR MISTING OPERATIONS<br>WITH OTHER BASE ACTIVITIES | 69                               |
| A31 DEVELOP WORK METHODS OR PROCEDURES  | 68                               |
| B64 DIRECT UTILIZATION OF EQUIPMENT   | 66                               |
| A45 PLAN WORK ASSIGNMENTS   | 66                               |
| A27 COORDINATE WORK PROGRESS WITH CE SCHEDULING   | 65                               |
| B68 IMPLEMENT SAFETY PROGRAMS   | 63                               |
| D111 CONDUCT OJT  | 61                               |
| E147 MAKE ENTRIES ON AF FORMS 1445 (MATERIALS AND EQUIPMENT<br>LIST)                    | 60                               |



TABLE 1B

GROUP ID NUMBER AND TITLE: 051, GENERAL PEST MANAGEMENT PERSONNEL  
 GROUP SIZE: 148 PERCENT OF SAMPLE: 33  
 AVERAGE PAYGRADE: E-3 PERCENT OF MILITARY MEMBERS: 86  
 AVERAGE TAFMS: 39 MONTHS PERCENT OF CIVILIAN MEMBERS: 14  
 AVERAGE TICF: 45 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| F199 PREPARE INSECTICIDE EMULSIONS  | 95                               |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS   | 89                               |
| F185 INTERPRET PESTICIDE LABELS   | 89                               |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS  | 86                               |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS                                    | 84                               |
| G247 IDENTIFY HOUSEHOLD PESTS   | 84                               |
| G256 INSPECT BUILDINGS FOR HOUSEHOLD PESTS  | 75                               |
| F175 DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS<br>REQUIRED FOR PEST CONTROL OPERATIONS | 73                               |
| 0490 PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE  | 70                               |
| J356 PLACE OR INSPECT POISON DOMESTIC RODENT BAITs  | 70                               |
| I304 APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND<br>EQUIPMENT                       | 69                               |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS  | 68                               |
| I330 APPLY SPACE SPRAYS INDOORS USING PORTABLE EQUIPMENT  | 65                               |
| F177 DETERMINE HERBICIDE APPLICATION METHODS  | 63                               |
| J365 TRAP DOMESTIC RODENTS  | 63                               |
| J359 REMOVE LIVE ANIMALS FROM ATTICS, VENTS, OR OTHER CONFINED<br>AREAS                         | 63                               |
| I334 EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS   | 62                               |
| G255 INSPECT BUILDING SITES FOR STRUCTURAL PESTS  | 62                               |
| F204 RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS                                   | 61                               |
| 0489 PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED<br>HYDRAULIC SPRAYERS                   | 61                               |
| 0464 PERFORM OPERATOR MAINTENANCE ON VEHICLE- OR TRAILER-<br>MOUNTED HYDRAULIC SPRAYERS         | 59                               |
| 0457 PERFORM OPERATOR MAINTENANCE ON NONPOWERED HAND EQUIPMENT                                  | 59                               |
| J360 REMOVE NESTS FROM TREES, SHRUBS, OR STRUCTURES   | 59                               |
| A22 COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING<br>OCCUPANTS                        | 58                               |
| H288 DRILL CONCRETE SLABS USING POWERED HAMMERS   | 56                               |
| 0433 CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COM-<br>PRESSED AIR SPRAYERS             | 55                               |
| G251 IDENTIFY STRUCTURAL PESTS  | 55                               |

TABLE IC

GROUP ID NUMBER AND TITLE: 053, PEST MANAGEMENT SHOP NCOICs  
 GROUP SIZE: 17 PERCENT OF SAMPLE: 4  
 AVERAGE PAYGRADE: E-6 PERCENT OF MILITARY MEMBERS: 70  
 AVERAGE TAFMS: 161 MONTHS PERCENT OF CIVILIAN MEMBERS: 30  
 AVERAGE TICF: 179 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| A22 COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING<br>OCCUPANTS    | 100                              |
| A29 DETERMINE WORK PRIORITIES   | 94                               |
| C86 EVALUATE EXTENT OF PEST INFESTATIONS                                    | 94                               |
| B64 DIRECT UTILIZATION OF EQUIPMENT   | 94                               |
| B76 SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC<br>56630)          | 88                               |
| A45 PLAN WORK ASSIGNMENTS   | 88                               |
| B79 SUPERVISE PEST MANAGEMENT SPECIALISTS (AFSC 56650)                      | 88                               |
| B77 SUPERVISE CIVILIANS   | 88                               |
| F188 MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES                         | 88                               |
| C83 EVALUATE BASE PEST CONTROL PROGRAMS                                     | 88                               |
| A53 SCHEDULE PERIODIC INSECT INSPECTIONS OR SURVEYS, OTHER<br>THAN TERMITES | 88                               |
| A31 DEVELOP WORK METHODS OR PROCEDURES                                      | 88                               |
| C82 ANALYZE WORKLOAD REQUIREMENTS   | 87                               |
| D123 EVALUATE OJT TRAINEES  | 82                               |
| A35 DETERMINE MANPOWER REQUIREMENTS   | 82                               |
| E154 MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT)              | 82                               |
| A27 COORDINATE WORK PROGRESS WITH CE SCHEDULING                             | 82                               |
| A51 DRAFT MESSAGES FOR ELECTRICAL TRANSMISSION                              | 82                               |
| C88 EVALUATE INSPECTION REPORTS OR PROCEDURES                               | 82                               |
| E138 MAINTAIN AF FORMS 1734 (BCE DAILY WORK SCHEDULE)                       | 76                               |
| E141 MAINTAIN MAJCOM OR INSTALLATION PEST MANAGEMENT ACTIVITY<br>RECORDS    | 76                               |
| C104 PREPARE APRs   | 76                               |
| B72 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR<br>SUBORDINATES       | 76                               |
| B59 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED<br>PROBLEMS           | 76                               |
| A14 ASSIGN PERSONNEL TO DUTY POSITIONS                                      | 65                               |
| C94 EVALUATE SPECIAL PEST MANAGEMENT PROGRAMS                               | 65                               |
| C87 EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR<br>RECLASSIFICATION    | 59                               |

TABLE II

GROUP ID NUMBER AND TITLE: 024, JUNIOR PEST MANAGEMENT PERSONNEL CLUSTER  
 GROUP SIZE: 39 PERCENT OF SAMPLE: 9  
 AVERAGE PAYGRADE: E-2 PERCENT OF MILITARY MEMBERS: 97  
 AVERAGE TAFMS: 21 MONTHS PERCENT OF CIVILIAN MEMBERS: 3  
 AVERAGE TICF: 18 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT  | 87                               |
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT  | 85                               |
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES                                   | 82                               |
| 0435 CLEAN HAND EQUIPMENT   | 82                               |
| J347 DISPOSE OF DEAD ANIMALS  | 82                               |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS  | 77                               |
| F199 PREPARE INSECTICIDE EMULSIONS  | 67                               |
| P498 DRIVE VEHICLES DURING PESTICIDE APPLICATIONS                                   | 67                               |
| F209 TRANSPORT HAND EQUIPMENT   | 67                               |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS                        | 64                               |
| F210 TRANSPORT PESTICIDES   | 62                               |
| F203 PREPARE RODENT BAITS   | 59                               |
| 0484 PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT                                   | 56                               |
| 0436 CLEAN PESTICIDE TANKS OR HOPPERS   | 49                               |
| G247 IDENTIFY HOUSEHOLD PESTS   | 49                               |
| J356 PLACE OR INSPECT POISON DOMESTIC RODENT BAITS                                  | 46                               |
| M408 APPLY LIQUID HERBICIDES TO GROUND SURFACES USING POWER<br>EQUIPMENT            | 44                               |
| 0465 PERFORM OPERATOR MAINTENANCE ON VEHICLES                                       | 44                               |
| F194 PREPARE HERBICIDE EMULSIONS  | 44                               |
| J360 REMOVE NESTS FROM TREES, SHRUBS, OR STRUCTURES                                 | 41                               |
| F189 MAINTAIN PESTICIDE STORAGE AREAS   | 41                               |
| I332 CLEAN UP AFTER INSECT CONTROL OPERATIONS                                       | 36                               |
| M407 APPLY LIQUID HERBICIDES TO GROUND SURFACES USING COM-<br>PRESSED AIR SPRAYERS  | 36                               |
| 0450 PERFORM OPERATOR MAINTENANCE ON HYDRAULIC SPRAYERS                             | 36                               |
| A57 SCHEDULE VACANT QUARTER FOR TREATMENTS  | 36                               |
| I317 APPLY LIQUID INSECTICIDES FOR DEFOLIATORS USING HYDRAULIC<br>SPRAYERS          | 33                               |
| H288 DRILL CONCRETE SLABS USING POWERED HAMMERS                                     | 33                               |
| F198 PREPARE INSECT BAITS   | 31                               |
| 0433 CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COM-<br>PRESSED AIR SPRAYERS | 31                               |
| H282 APPLY INSECTICIDES USING SUBSLAB INJECTION UNITS                               | 31                               |

TABLE III

GROUP ID NUMBER AND TITLE: SPC104, TOTAL MILITARY SAMPLE  
 GROUP SIZE: 359 PERCENT OF SAMPLE: 79  
 AVERAGE PAYGRADE: E-4 AVERAGE TICF: 55 MONTHS  
 AVERAGE TAFMS: 68 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS   | PERCENT<br>MEMBERS<br>PERFORMING |
|---|----------------------------------|
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT  | 91                               |
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT  | 90                               |
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES   | 89                               |
| F210 TRANSPORT PESTICIDES   | 87                               |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS  | 87                               |
| F199 PREPARE INSECTICIDE EMULSIONS  | 86                               |
| F209 TRANSPORT HAND EQUIPMENT   | 85                               |
| 0435 CLEAN HAND EQUIPMENT   | 85                               |
| 0446 PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS                                    | 84                               |
| 0471 PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS   | 84                               |
| J347 DISPOSE OF DEAD ANIMALS  | 84                               |
| F186 INVENTORY PESTICIDES   | 84                               |
| F185 INTERPRET PESTICIDE LABELS   | 83                               |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS  | 82                               |
| F208 TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL<br>EQUIPMENT                         | 81                               |
| G247 IDENTIFY HOUSEHOLD PESTS   | 80                               |
| 0458 PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT                                  | 79                               |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS                                    | 79                               |
| I300 ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES                                   | 79                               |
| P498 DRIVE VEHICLES DURING PESTICIDE APPLICATIONS   | 79                               |
| F189 MAINTAIN PESTICIDE STORAGE AREAS   | 76                               |
| J357 PLACE OR INSPECT RODENT TRAPS  | 76                               |
| 0436 CLEAN PESTICIDE TANKS OR HOPPERS   | 76                               |
| F179 DETERMINE RODENTICIDE APPLICATION METHODS  | 75                               |
| 0484 PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT   | 74                               |
| F200 PREPARE INSECTICIDE SOLUTIONS  | 73                               |
| B73 INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES   | 72                               |
| G256 INSPECT BUILDINGS FOR HOUSEHOLD PESTS  | 72                               |
| F175 DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS<br>REQUIRED FOR PEST CONTROL OPERATIONS | 72                               |
| 0439 ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS   | 69                               |
| F204 RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS                                   | 68                               |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS  | 68                               |
| G243 IDENTIFY DOMESTIC RODENTS  | 67                               |
| F201 PREPARE INSECTICIDE SUSPENSIONS  | 67                               |

TABLE IV

GROUP ID NUMBER AND TITLE: SPC094, TOTAL CIVILIAN SAMPLE  
 GROUP SIZE: 93 PERCENT OF SAMPLE: 21  
 AVERAGE TIME IN FEDERAL CIVIL SERVICE: 212 MONTHS  
 AVERAGE TICF: 155 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS  | PERCENT<br>MEMBERS<br>PERFORMING |
|--|----------------------------------|
| 0438 INSPECT PERSONAL SAFETY EQUIPMENT   | 86                               |
| F187 LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES                              | 85                               |
| F209 TRANSPORT HAND EQUIPMENT  | 84                               |
| F185 INTERPRET PESTICIDE LABELS  | 84                               |
| F181 DISPOSE OF EMPTY PESTICIDE CONTAINERS                                     | 84                               |
| F179 DETERMINE RODENTICIDE APPLICATION METHODS                                 | 84                               |
| I300 ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES                  | 84                               |
| G247 IDENTIFY HOUSEHOLD PESTS  | 83                               |
| F210 TRANSPORT PESTICIDES  | 83                               |
| J357 PLACE OR INSPECT RODENT TRAPS   | 83                               |
| I304 APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND<br>EQUIPMENT      | 83                               |
| G255 INSPECT BUILDING SITES FOR STRUCTURAL PESTS                               | 82                               |
| 0435 CLEAN HAND EQUIPMENT  | 82                               |
| F178 DETERMINE INSECTICIDE APPLICATION METHODS                                 | 82                               |
| J347 DISPOSE OF DEAD ANIMALS   | 81                               |
| 0437 CLEAN, WASH, AND DRY SAFETY EQUIPMENT                                     | 81                               |
| G251 IDENTIFY STRUCTURAL PESTS   | 80                               |
| F189 MAINTAIN PESTICIDE STORAGE AREAS  | 78                               |
| G256 INSPECT BUILDINGS FOR HOUSEHOLD PESTS                                     | 77                               |
| F200 PREPARE INSECTICIDE SOLUTIONS   | 77                               |
| F208 TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL<br>EQUIPMENT        | 77                               |
| G235 CONDUCT SURVEYS FOR STRUCTURAL PESTS                                      | 77                               |
| F186 INVENTORY PESTICIDES  | 77                               |
| F199 PREPARE INSECTICIDE EMULSIONS   | 76                               |
| 0436 CLEAN PESTICIDE TANKS OR HOPPERS  | 76                               |
| P498 DRIVE VEHICLES DURING PESTICIDE APPLICATIONS                              | 76                               |
| G231 CONDUCT SURVEYS FOR HOUSEHOLD PESTS                                       | 76                               |
| G261 INSPECT FOR FIELD RODENT INFESTATIONS                                     | 75                               |
| I325 APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS                   | 74                               |
| E161 MAKE ENTRIES ON DD FORMS 1070 (TERMITE AND WOOD DECAY<br>INSPECTION)      | 74                               |
| F184 INSPECT CONTAINERS AND CONTENTS FOR SERVICEABILITY AND<br>EXPIRATION DATE | 74                               |
| G264 INSPECT HOUSING AREAS FOR DOMESTIC RODENT INFESTATION                     | 74                               |

END

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